

# ABC Learn Business IN Easy Way

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## Content

Money-----	1
Cash-----	12
Cost-----	15
Debt-----	18
Customs-----	24
Demand-----	27
Demand-led growth-----	31
Demand curve-----	35
Demand chain-----	38
Currency-----	42
Goods-----	49
Investor-----	51
Rent-seeking-----	56
Tax-----	61
Income tax-----	64
Property taxes-----	66
Value added tax-----	69
Value added -----	90
Value added reseller-----	93

Wage labor-----	94
Wage share-----	97
Profit -----	98
Price-----	100
Price floor-----	103
Price ceiling-----	104
Price discovery-----	107
Inflation-----	110
Asset-----	128
Check-----	132
Final good-----	150

# Money

Money is any item or verifiable record that is generally accepted as payment for goods and services and repayment of debts in a particular country or socio-economic context. The main functions of money are distinguished as: a medium of exchange; a unit of account; a store of value; and, sometimes, a standard of deferred payment. Any item or verifiable record that fulfills these functions can be considered as money.

Money is historically an emergent market phenomenon establishing a commodity money, but nearly all contemporary money systems are based on fiat money. Fiat money, like any check or note of debt, is without use value as a physical commodity. It derives its value by being declared by a government to be legal tender; that is, it must be accepted as a form of payment within the boundaries of the country, for "all debts, public and private".

The money supply of a country consists of currency (banknotes and coins) and, depending on the particular definition used, one or more types of bank money (the balances held in checking accounts, savings accounts, and other types of bank accounts). Bank money, which consists only of records (mostly computerized in modern banking), forms by far the largest part of broad money in developed countries.

## History of money

The word "money" is believed to originate from a temple of Juno, on Capitoline, one of Rome's seven hills. In the ancient world Juno was often associated with money. The temple of Juno Moneta at Rome was the place where the mint of Ancient Rome was located. The name "Juno" may derive from the Etruscan goddess Uni (which means "the one", "unique", "unit", "union", "united") and "Moneta" either from the Latin word "monere" (remind, warn, or instruct) or the Greek word "moneres" (alone, unique).

Indians, China, Asia, Africa and Australia used shell money – often, the shells of the cowry. According to Herodotus, the Lydians were the first people to introduce the use of gold and silver coins. It is thought by modern scholars that these first stamped coins were minted around 650–600 BC.

The system of commodity money eventually evolved into a system of representative money. This occurred because gold and silver merchants or banks would issue receipts to their depositors – redeemable for the commodity money deposited. Eventually, these receipts became generally accepted as a means of payment and were used as money. Paper money or banknotes were first used in China during the Song dynasty. These banknotes, known as "jiaozi", evolved from promissory notes that had been used since the 7th century. However, they did not displace commodity money, and were used alongside coins. In the 13th century, paper money became known in Europe through the accounts of travelers, such as Marco Polo and William of Rubruck. Marco Polo's account of paper money during the Yuan dynasty is the subject of a chapter of his book, *The Travels of Marco Polo*, titled "How the Great Kaan Causeth the Bark of Trees, Made Into Something Like Paper, to Pass for Money All Over his Country." Banknotes were first issued in Europe by Stockholms Banco in 1661, and were again also used alongside coins. The gold standard, a monetary system where the medium of exchange are paper notes that are convertible into pre-set, fixed quantities of gold, replaced the use of gold coins as currency in the 17th–19th centuries in Europe. These gold standard notes were made legal tender, and redemption into gold coins was discouraged. By the beginning of the 20th century almost all countries had adopted the gold standard, backing their legal tender notes with fixed amounts of gold.

After World War II and the Bretton Woods Conference, most countries adopted fiat currencies that were fixed to the U.S. dollar. The U.S. dollar was in turn fixed to gold. In 1971 the U.S. government suspended the convertibility of the U.S. dollar to gold. After this many countries de-pegged their currencies from the U.S. dollar, and most of the world's currencies became unbacked by anything except the governments' fiat of legal tender and the ability to convert the money into goods via payment. According to proponents of modern money theory, fiat money is also backed by taxes. By imposing taxes, states create demand for the currency they issue.

## Functions

This couplet would later become widely popular in macroeconomics textbooks. Most modern textbooks now list only three functions, that of medium of exchange, unit of account, and store of value, not considering a standard of deferred payment as it is a distinguished function, but rather subsuming it in the others.

There have been many historical disputes regarding the combination of money's functions, some arguing that they need more separation and that a single unit is insufficient to deal with them all. One of these arguments is that the role of money as a medium of exchange is in conflict with its role as a store of value: its role as a store of value requires holding it without spending, whereas its role as a medium of

exchange requires it to circulate. Others argue that storing of value is just deferral of the exchange, but does not diminish the fact that money is a medium of exchange that can be transported both across space and time. The term "financial capital" is a more general and inclusive term for all liquid instruments, whether or not they are a uniformly recognized tender.

When money is used to intermediate the exchange of goods and services, it is performing a function as a *medium of exchange*. It thereby avoids the inefficiencies of a barter system, such as the "coincidence of wants" problem. Money's most important usage is as a method for comparing the values of dissimilar objects.

A *unit of account* (in economics) is a standard numerical monetary unit of measurement of the market value of goods, services, and other transactions. Also known as a "measure" or "standard" of relative worth and deferred payment, a unit of account is a necessary prerequisite for the formulation of commercial agreements that involve debt.

Money acts as a standard measure and common denomination of trade. It is thus a basis for quoting and bargaining of prices. It is necessary for developing efficient accounting systems.

While *standard of deferred payment* is distinguished by some texts, particularly older ones, other texts subsume this under other functions. A "standard of deferred payment" is an accepted way to settle a debt – a unit in which debts are denominated, and the status of money as legal tender, in those jurisdictions which have this concept, states that it may function for the discharge of debts. When debts are denominated in money, the real value of debts may change due to inflation and deflation, and for sovereign and international debts via debasement and devaluation.

To act as a *store of value*, a money must be able to be reliably saved, stored, and retrieved – and be predictably usable as a medium of exchange when it is retrieved. The value of the money must also remain stable over time. Some have argued that inflation, by reducing the value of money, diminishes the ability of the money to function as a store of value.

To fulfill its various functions, money must have certain properties:

- Fungibility: its individual units must be capable of mutual substitution (i.e., interchangeability).
- Durability: able to withstand repeated use.

- Portability: easily carried and transported.
- Cognizability: its value must be easily identified.
- Stability of value: its value should not fluctuate.

In economics, money is a broad term that refers to any financial instrument that can fulfil the functions of money (detailed above). These financial instruments together are collectively referred to as the money supply of an economy. In other words, the money supply is the number of financial instruments within a specific economy available for purchasing goods or services. Since the money supply consists of various financial instruments (usually currency, demand deposits and various other types of deposits), the amount of money in an economy is measured by adding together these financial instruments creating a *monetary aggregate*.

Modern monetary theory distinguishes among different ways to measure the money supply, reflected in different types of monetary aggregates, using a categorization system that focuses on the liquidity of the financial instrument used as money. The most commonly used monetary aggregates (or types of money) are conventionally designated M1, M2 and M3. These are successively larger aggregate categories: M1 is currency (coins and bills) plus demand deposits (such as checking accounts); M2 is M1 plus savings accounts and time deposits under \$100,000; and M3 is M2 plus larger time deposits and similar institutional accounts. M1 includes only the most liquid financial instruments, and M3 relatively illiquid instruments. The precise definition of M1, M2 etc. may be different in different countries.

Another measure of money, M0, is also used; unlike the other measures, it does not represent actual purchasing power by firms and households in the economy .

M0 is base money, or the amount of money actually issued by the central bank of a country. It is measured as currency plus deposits of banks and other institutions at the central bank. M0 is also the only money that can satisfy the reserve requirements of commercial banks.

In current economic systems, money is created by two procedures:

Legal tender, or narrow money (M0) is the cash money created by a Central Bank by minting coins and printing banknotes.

Bank money, or broad money (M1/M2) is the money created by private banks through the recording of loans as deposits of borrowing clients, with partial support indicated by the cash ratio. Currently, bank money is created as electronic money.



In most countries, the majority of money is mostly created as M1/M2 by commercial banks making loans. Contrary to some popular misconceptions, banks do not act simply as intermediaries, lending out deposits that savers place with them, and do not depend on central bank money (M0) to create new loans and deposits.

"Market liquidity" describes how easily an item can be traded for another item, or into the common currency within an economy. Money is the most liquid asset because it is universally recognised and accepted as the common currency. In this way, money gives consumers the freedom to trade goods and services easily without having to barter.

Liquid financial instruments are easily tradable and have low transaction costs. There should be no (or minimal) spread between the prices to buy and sell the instrument being used as money.

Currently, most modern monetary systems are based on fiat money. However, for most of history, almost all money was commodity money, such as gold and silver coins. As economies developed, commodity money was eventually replaced by representative money, such as the gold standard, as traders found the physical transportation of gold and silver burdensome. Fiat currencies gradually took over in the last hundred years, especially since the breakup of the Bretton Woods system in the early 1970s.

Many items have been used as commodity money such as naturally scarce precious metals, conch shells, barley, beads etc., as well as many other things that are thought of as having value. Commodity money value comes from the commodity out of which it is made. The commodity itself constitutes the money, and the money is the commodity. Examples of commodities that have been used as mediums of exchange include gold, silver, copper, rice, Wampum, salt, peppercorns, large stones, decorated belts, shells, alcohol, cigarettes, cannabis, candy, etc. These items were sometimes used in a metric of perceived value in conjunction to one another, in various commodity valuation or price system economies. Use of commodity money is similar to barter, but a commodity money provides a simple and automatic unit of account for the commodity which is being used as money. Although some gold coins such as the Krugerrand are considered legal tender, there is no record of their face value on either side of the coin. The rationale for this is that emphasis is laid on their direct link to the prevailing value of their fine gold content. American Eagles are imprinted with their gold content and legal tender face value.

In 1875, the British economist William Stanley Jevons described the money used at the time as "representative money". Representative money is money that consists of token coins, paper money or other physical tokens such as certificates, that can be reliably exchanged for a fixed quantity of a commodity such as gold or silver. The value of representative money stands in direct and fixed relation to the commodity that backs it, while not itself being composed of that commodity.

Fiat money or fiat currency is money whose value is not derived from any intrinsic value or guarantee that it can be converted into a valuable commodity (such as gold). Instead, it has value only by government order (fiat). Usually, the government declares the fiat currency (typically notes and coins from a central bank, such as the Federal Reserve System in the U.S.) to be legal tender, making it unlawful not to accept the fiat currency as a means of repayment for all debts, public and private.

Some bullion coins such as the Australian Gold Nugget and American Eagle are legal tender, however, they trade based on the market price of the metal content as a commodity, rather than their legal tender face value (which is usually only a small fraction of their bullion value).

Fiat money, if physically represented in the form of currency (paper or coins) can be accidentally damaged or destroyed. However, fiat money has an advantage over representative or commodity money, in that the same laws that created the money can also define rules for its replacement in case of damage or destruction. For example, the U.S. government will replace mutilated Federal Reserve Notes (U.S. fiat money) if at least half of the physical note can be reconstructed, or if it can be otherwise proven to have been destroyed. By contrast, commodity money which has been lost or destroyed cannot be recovered.

These factors led to the shift of the store of value being the metal itself: at first silver, then both silver and gold, and at one point there was bronze as well. Now we have copper coins and other non-precious metals as coins. Metals were mined, weighed, and stamped into coins. This was to assure the individual taking the coin that he was getting a certain known weight of precious metal. Coins could be counterfeited, but they also created a new unit of account, which helped lead to banking. Archimedes' principle provided the next link: coins could now be easily tested for their fine weight of metal, and thus the value of a coin could be determined, even if it had been shaved, debased or otherwise tampered with .

In most major economies using coinage, copper, silver and gold formed three tiers of coins. Gold coins were used for large purchases, payment of the military and backing of state activities. Silver coins were used for midsized transactions, and as a unit of

account for taxes, dues, contracts and fealty, while copper coins represented the coinage of common transaction. This system had been used in ancient India since the time of the Mahajanapadas. In Europe, this system worked through the medieval period because there was virtually no new gold, silver or copper introduced through mining or conquest. Thus the overall ratios of the three coinages remained roughly equivalent.

In premodern China, the need for credit and for circulating a medium that was less of a burden than exchanging thousands of copper coins led to the introduction of paper money, commonly known today as banknotes. This economic phenomenon was a slow and gradual process that took place from the late Tang dynasty (618–907) into the Song dynasty (960–1279). It began as a means for merchants to exchange heavy coinage for receipts of deposit issued as promissory notes from shops of wholesalers, notes that were valid for temporary use in a small regional territory. In the 10th century, the Song dynasty government began circulating these notes amongst the traders in their monopolized salt industry. The Song government granted several shops the sole right to issue banknotes, and in the early 12th century the government finally took over these shops to produce state-issued currency. Yet the banknotes issued were still regionally valid and temporary; it was not until the mid 13th century that a standard and uniform government issue of paper money was made into an acceptable nationwide currency. The already widespread methods of woodblock printing and then Pi Sheng's movable type printing by the 11th century was the impetus for the massive production of paper money in premodern China.

At around the same time in the medieval Islamic world, a vigorous monetary economy was created during the 7th–12th centuries on the basis of the expanding levels of circulation of a stable high-value currency (the dinar). Innovations introduced by Muslim economists, traders and merchants include the earliest uses of credit, cheques, promissory notes, savings accounts, transactional accounts, loaning, trusts, exchange rates, the transfer of credit and debt, and banking institutions for loans and deposits.

In Europe, paper money was first introduced in Sweden in 1661. Sweden was rich in copper, thus, because of copper's low value, extraordinarily big coins (often weighing several kilograms) had to be made. The advantages of paper currency were numerous: it reduced transport of gold and silver, and thus lowered the risks; it made loaning gold or silver at interest easier, since the specie (gold or silver) never left the possession of the lender until someone else redeemed the note; and it allowed for a

division of currency into credit and specie backed forms. It enabled the sale of stock in joint stock companies, and the redemption of those shares in paper.

However, these advantages held within them disadvantages. First, since a note has no intrinsic value, there was nothing to stop issuing authorities from printing more of it than they had specie to back it with. Second, because it increased the money supply, it increased inflationary pressures, a fact observed by David Hume in the 18th century. The result is that paper money would often lead to an inflationary bubble, which could collapse if people began demanding hard money, causing the demand for paper notes to fall to zero. The printing of paper money was also associated with wars, and financing of wars, and therefore regarded as part of maintaining a standing army. For these reasons, paper currency was held in suspicion and hostility in Europe and America. It was also addictive, since the speculative profits of trade and capital creation were quite large. Major nations established mints to print money and mint coins, and branches of their treasury to collect taxes and hold gold and silver stock.

At this time both silver and gold were considered legal tender, and accepted by governments for taxes. However, the instability in the ratio between the two grew over the course of the 19th century, with the increase both in supply of these metals, particularly silver, and of trade. This is called bimetallism and the attempt to create a bimetallic standard where both gold and silver backed currency remained in circulation occupied the efforts of inflationists. Governments at this point could use currency as an instrument of policy, printing paper currency such as the United States Greenback, to pay for military expenditures. They could also set the terms at which they would redeem notes for specie, by limiting the amount of purchase, or the minimum amount that could be redeemed.

By 1900, most of the industrializing nations were on some form of gold standard, with paper notes and silver coins constituting the circulating medium. Private banks and governments across the world followed Gresham's Law: keeping gold and silver paid, but paying out in notes. This did not happen all around the world at the same time, but occurred sporadically, generally in times of war or financial crisis, beginning in the early part of the 20th century and continuing across the world until the late 20th century, when the regime of floating fiat currencies came into force. One of the last countries to break away from the gold standard was the United States in 1971.

No country anywhere in the world today has an enforceable gold standard or silver standard currency system.

Commercial bank money or demand deposits are claims against financial institutions that can be used for the purchase of goods and services. A demand deposit account is an account from which funds can be withdrawn at any time by check

or cash withdrawal without giving the bank or financial institution any prior notice. Banks have the legal obligation to return funds held in demand deposits immediately upon demand (or 'at call'). Demand deposit withdrawals can be performed in person, via checks or bank drafts, using automatic teller machines (ATMs), or through online banking.

Commercial bank money is created through fractional-reserve banking, the banking practice where banks keep only a *fraction* of their deposits in reserve (as cash and other highly liquid assets) and lend out the remainder, while maintaining the simultaneous obligation to redeem all these deposits upon demand. Commercial bank money differs from commodity and fiat money in two ways: firstly it is non-physical, as its existence is only reflected in the account ledgers of banks and other financial institutions, and secondly, there is some element of risk that the claim will not be fulfilled if the financial institution becomes insolvent. The process of fractional-reserve banking has a cumulative effect of money creation by commercial banks, as it expands money supply (cash and demand deposits) beyond what it would otherwise be. Because of the prevalence of fractional reserve banking, the broad money supply of most countries is a multiple larger than the amount of base money created by the country's central bank. That multiple (called the money multiplier) is determined by the reserve requirement or other financial ratio requirements imposed by financial regulators.

The money supply of a country is usually held to be the total amount of currency in circulation plus the total value of checking and savings deposits in the commercial banks in the country. In modern economies, relatively little of the money supply is in physical currency. For example, in December 2010 in the U.S., of the \$8853.4 billion in broad money supply (M2), only \$915.7 billion (about 10%) consisted of physical coins and paper money.

Many digital currencies, in particular Flooz and Beenz, had gained momentum before the Dot-com bubble of the early 2000s. Not much innovation occurred until the conception of Bitcoin in 2009, which introduced the concept of a cryptocurrency.

When gold and silver are used as money, the money supply can grow only if the supply of these metals is increased by mining. This rate of increase will accelerate during periods of gold rushes and discoveries, such as when Columbus discovered the New World and brought back gold and silver to Spain, or when gold was discovered in California in 1848. This causes inflation, as the value of gold goes down. However, if the rate of gold mining cannot keep up with the growth of the economy, gold becomes relatively more valuable, and prices (denominated in gold) will drop, causing deflation. Deflation was the more typical situation for over a

century when gold and paper money backed by gold were used as money in the 18th and 19th centuries.

Modern day monetary systems are based on fiat money and are no longer tied to the value of gold. The control of the amount of money in the economy is known as monetary policy. Monetary policy is the process by which a government, central bank, or monetary authority manages the money supply to achieve specific goals. Usually the goal of monetary policy is to accommodate economic growth in an environment of stable prices. For example, it is clearly stated in the Federal Reserve Act that the Board of Governors and the Federal Open Market Committee should seek "to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates."

A failed monetary policy can have significant detrimental effects on an economy and the society that depends on it. These include hyperinflation, stagflation, recession, high unemployment, shortages of imported goods, inability to export goods, and even total monetary collapse and the adoption of a much less efficient barter economy. This happened in Russia, for instance, after the fall of the Soviet Union.

Governments and central banks have taken both regulatory and free market approaches to monetary policy. Some of the tools used to control the money supply include:

- changing the interest rate at which the central bank loans money to (or borrows money from) the commercial banks
- currency purchases or sales
- increasing or lowering government borrowing
- increasing or lowering government spending
- manipulation of exchange rates
- raising or lowering bank reserve requirements
- regulation or prohibition of private currencies
- taxation or tax breaks on imports or exports of capital into a country

In the US, the Federal Reserve is responsible for controlling the money supply, while in the Euro area the respective institution is the European Central Bank. Other central banks with significant impact on global finances are the Bank of Japan, People's Bank of China and the Bank of England.

For many years much of monetary policy was influenced by an economic theory known as monetarism. Monetarism is an economic theory which argues that management of the money supply should be the primary means of regulating economic activity. The stability of the demand for money prior to the 1980s was a key

finding of Milton Friedman and Anna Schwartz supported by the work of David Laidler, and many others. The nature of the demand for money changed during the 1980s owing to technical, institutional, and legal factors and the influence of monetarism has since decreased.

Counterfeit money is imitation currency produced without the legal sanction of the state or government. Producing or using counterfeit money is a form of fraud or forgery. Counterfeiting is almost as old as money itself. Plated copies have been found of Lydian coins which are thought to be among the first western coins. Before the introduction of paper money, the most prevalent method of counterfeiting involved mixing base metals with pure gold or silver. A form of counterfeiting is the production of documents by legitimate printers in response to fraudulent instructions. During World War II, the Nazis forged British pounds and American dollars. Today some of the finest counterfeit banknotes are called *Superdollars* because of their high quality and likeness to the real U.S. dollar. There has been significant counterfeiting of Euro banknotes and coins since the launch of the currency in 2002, but considerably less than for the U.S. dollar.

### **Money laundering**

Money laundering is the process in which the proceeds of crime are transformed into ostensibly legitimate money or other assets. However, in a number of legal and regulatory systems the term money laundering has become conflated with other forms of financial crime, and sometimes used more generally to include misuse of the financial system (involving things such as securities, digital currencies, credit cards, and traditional currency), including terrorism financing, tax evasion, and evading of international sanctions.

# Cash

In economics, cash is money in the physical form of currency, such as banknotes and coins. In bookkeeping and finance, cash is current assets comprising currency or currency equivalents that can be accessed immediately or near-immediately (as in the case of money market accounts). Cash is seen either as a reserve for payments, in case of a structural or incidental negative cash flow or as a way to avoid a downturn on financial markets.

The English word "cash" originally meant "money box", and later came to have a secondary meaning "money". This secondary usage became the sole meaning in the 18th century. The word "cash" derives from the Middle French *caisse* ("money box"), which derives from the Old Italian *cassa*, and ultimately from the Latin *capsa* ("box"). The root is not related to the colonial British word "cash", which meant "Indian monetary system", and derived from the Tamil *kasu*, Sanskrit *karsha* and Sinhalese *kasi*.

"To cash", the verbalization of the noun means "to convert to cash", as in the expression "to cash a cheque".

In Western Europe, after the fall of the Western Roman Empire, coins, silver jewelry and hacksilver (silver objects hacked into pieces) were for centuries the only form of money, until Venetian merchants started using silver bars for large transactions in the early Middle Ages. In a separate development, Venetian merchants started using paper bills, instructing their banker to make payments. Similar marked silver bars were in use in lands where the Venetian merchants had established representative offices. The Byzantine Empire and several states in the Balkan area and Kievan Rus also used marked silver bars for large payments. As the world economy developed and silver supplies increased, in particular after the colonization of South America, coins became larger and a standard coin for international payment developed from the 15th century: the Spanish and Spanish colonial coin of 8 reales. Its counterpart in gold was the Venetian ducat.

Coin types would compete for markets. By conquering foreign markets, the issuing rulers would enjoy extra income from seigniorage (the difference between the value of the coin and the value of the metal the coin was made of). Successful coin types of high nobility would be copied by lower nobility for seigniorage. Imitations were usually of a lower weight, undermining the popularity of the original. As feudal states



coalesced into kingdoms, imitation of silver types abated, but gold coins, in particular the gold ducat and the gold florin were still issued as trade coins: coins without a fixed value, going by weight. Colonial powers also sought to take away market share from Spain by issuing trade coin equivalents of silver Spanish coins, without much success.

In the early part of the 17th century, English East India Company coins were minted in England and shipped to the East. In England over time the word *cash* was adopted from Sanskrit *karsa* a weight of gold or silver but akin to the Old Persian *karsha*, unit of weight (83.30 grams). East India Company coinage had both Urdu and English writing on it, to facilitate its use within trade. In 1671 the directors of the East India Company ordered a mint to be established at Bombay, known as Bombaim. In 1677 this was sanctioned by the Crown, the coins, having received royal sanction, were struck as silver rupees; the inscription runs "The rupee of Bombaim", by authority of Charles II.

At about this time coins were also being produced for the East India Company at the Madras mint. The currency at the company's Bombay and Bengal administrative regions was the rupee. At Madras, however, the company's accounts were reckoned in *pagodas*, *fractions*, *fanams*, *faluce* and *cash*. This system was maintained until 1818 when the rupee was adopted as the unit of currency for the company's operations, the relation between the two systems being 1 pagoda = 3-91 rupees and 1 rupee = 12 fanams.

Meanwhile, paper money had been developed. At first, it was thought of for emergency issues, hence were most popular in the colonies of European powers. In the 18th century, important paper issues were made in colonies such as Ceylon and the bordering colonies of Essequibo, Demerara and Berbice. John Law did pioneering work on banknotes with the *Banque Royale*. However, the relation between money supply and inflation was still imperfectly understood and the bank went under, while its notes became worthless when they were over-issued. The lessons learned were applied to the Bank of England, which played a crucial role in financing Wellington's Peninsular war against French troops, hamstrung by a metallic Franc de Germinal.

The ability to create paper money made nation-states responsible for the management of inflation, through control of the money supply. It also made a direct relation between the metal of the coin and its denomination superfluous. From 1816, coins generally became token money, though some large silver and gold coins remained standard coins until 1927. The World War I saw standard coins disappear to a very large extent. Afterwards, standard gold coins, mainly British sovereigns, would still be used in colonies and less developed economies and silver Maria Theresa

thalers dated 1780 would be struck as trade coins for countries in East Asia until 1946 and possibly later locally.

Cash has now become a very small part of the money supply. Its remaining role is to provide a form of currency storage and payment for those who do not wish to take part in other systems, and make small payments conveniently and promptly, though this latter role is being replaced more and more frequently by electronic payment systems. Research has found that the demand for cash decreases as debit card usage increases because merchants need to make less change for customer purchases.

Cash is increasing in circulation. The value of the United States dollar in circulation increased by 42% from 2007 to 2012. The value of pound sterling banknotes in circulation increased by 29% from 2008 to 2013. The value of the euro in circulation increased by 34% from August 2008 to August 2013 (2% of the increase was due to the adoption of euro in Slovakia 2009 and in Estonia 2011).

Cashless society is the idea that in the future cash will be redundant having been replaced by electronic means of transfer. In the UK it is now reported that 1 in 7 people no longer carry or use cash.

# Cost

In production, research, retail, and accounting, a cost is the value of money that has been used up to produce something or deliver a service, and hence is not available for use anymore. In business, the cost may be one of acquisition, in which case the amount of money expended to acquire it is counted as cost. In this case, money is the input that is gone in order to acquire the thing. This acquisition cost may be the sum of the cost of production as incurred by the original producer, and further costs of transaction as incurred by the acquirer over and above the price paid to the producer. Usually, the price also includes a mark-up for profit over the cost of production.

More generalized in the field of economics, cost is a metric that is totaling up as a result of a process or as a differential for the result of a decision. Hence cost is the metric used in the standard modeling paradigm applied to economic processes.

Costs (pl.) are often further described based on their timing or their applicability.

In accounting, costs are the monetary value of expenditures for supplies, services, labor, products, equipment and other items purchased for use by a business or other accounting entity. It is the amount denoted on invoices as the price and recorded in bookkeeping records as an expense or asset cost basis.

Opportunity cost, also referred to as *economic cost* is the value of the best alternative that was not chosen in order to pursue the current endeavor—i.e., what could have been accomplished with the resources expended in the undertaking. It represents opportunities forgone.

In theoretical economics, cost used without qualification often means opportunity cost.

When a transaction takes place, it typically involves both private costs and external costs.

Private costs are the costs that the buyer of a good or service pays the seller. This can also be described as the costs internal to the firm's production function.

External costs (also called externalities), in contrast, are the costs that people other than the buyer are forced to pay as a result of the transaction. The bearers of such costs can be either particular individuals or society at large. Note that external costs are often both non-monetary and problematic to quantify for comparison with

monetary values. They include things like pollution, things that society will likely have to pay for in some way or at some time in the future, but that are not included in transaction prices.

Social costs are the sum of private costs and external costs.

For example, the manufacturing cost of a car (i.e., the costs of buying inputs, land tax rates for the car plant, overhead costs of running the plant and labor costs) reflects the *private cost* for the manufacturer (in some ways, normal profit can also be seen as a cost of production; see, e.g., Ison and Wall, 2007, p. 181). The polluted waters or polluted air also created as part of the process of producing the car is an *external cost* borne by those who are affected by the pollution or who value unpolluted air or water. Because the manufacturer does not pay for this external cost (the cost of emitting undesirable waste into the commons), and does not include this cost in the price of the car (a Kaldor-Hicks compensation), they are said to be external to the market pricing mechanism. The air pollution from driving the car is also an externality produced by the car user in the process of using his good. The driver does not compensate for the environmental damage caused by using the car.

Cost estimation

Main articles: Cost estimation, Cost overrun, and parametric estimating

When developing a business plan for a new or existing company, product, or project, planners typically make cost estimates in order to assess whether revenues/benefits will cover costs (see cost-benefit analysis). This is done in both business and government. Costs are often underestimated, resulting in cost overrun during execution.

Cost-plus pricing, is where the price equals cost plus a percentage of overhead or profit margin.

Manufacturing costs vs. non-manufacturing costs

Manufacturing costs are those costs that are directly involved in manufacturing of products. Examples of manufacturing costs include raw materials costs and charges related to workers. Manufacturing cost is divided into three broad categories:

1. Direct materials cost.
2. Direct labor cost.
3. Manufacturing overhead cost.

Non-manufacturing costs are those costs that are not directly incurred in manufacturing a product. Examples of such costs are salary of sales personnel and advertising expenses. Generally non-manufacturing costs are further classified into two categories:

1. Selling and distribution costs.
2. Administrative costs.

Other costs

A defensive cost is an environmental expenditure to eliminate or prevent environmental damage. Defensive costs form part of the genuine progress indicator (GPI) calculations.

Labour costs would include travel time, holiday pay, training costs, working clothes, social insurance, taxes on employment &c.

Path cost is a term in networking to define the worthiness of a path, see Routing.

# Debt

Debt is money owed by one party, the borrower or debtor, to a second party, the lender or creditor. The borrower may be a sovereign state or country, local government, company, or an individual. The lender may be a bank, credit card company, payday loan provider, business, or an individual. Debt is generally subject to contractual terms regarding the amount and timing of repayments of principal and interest. A simple way to understand interest is to see it as the "rent" a person owes on money that they have borrowed, to the bank from which they borrowed the money. Loans, bonds, notes, and mortgages are all types of debt. The term can also be used metaphorically to cover moral obligations and other interactions not based on economic value. For example, in Western cultures, a person who has been helped by a second person is sometimes said to owe a "debt of gratitude" to the second person.

The English term "debt" was first used in the late 13th century. The term "debt" comes from "dette, from Old French dete, from Latin debitum "thing owed," neuter past participle of debere "to owe," originally, "keep something away from someone," from de- "away" (see de-) + habere "to have" (see habit (n.)). Restored spelling after c. 1400. The related term "debtor" was first used in English also in the early 13th century; the terms "dettur, dettour, from Old French detour, from Latin debitor "a debtor," from past participle stem of debere;...The -b- was restored in later French, and in English c. 1560-c. 1660." In the King James Bible, various spellings are used; the spellings "dettur three times, debter three times, debtor twice and debtour once."

Interest is the fee paid by the borrower to the lender. Interest is calculated as a percentage of the outstanding principal, which percentage is known as an interest rate, and is generally paid periodically at intervals, such as monthly or semi-annually.

Interest rates may be fixed or floating. In floating-rate structures, the rate of interest that the borrower pays during each time period is tied to a benchmark such as LIBOR or, in the case of inflation-indexed bonds, inflation.

There are many different conventions for calculating interest. Depending on the terms of the debt, compound interest may accumulate at a specific interval. In addition, different day count conventions exist, for example, sometimes each month is considered to have exactly thirty days, such that the interest payment due is the same

in each calendar month. The annual percentage rate (APR) is a standardized way to calculate and compare interest rates on an annual basis. Quoting interest rates using APR is required by regulation for most loans to individuals in the United States and United Kingdom.

For some loans, the amount actually loaned to the debtor is less than the principal sum to be repaid. This may be because upfront fees or points are charged, or because the loan has been structured to be sharia-compliant. The additional principal due at the end of the term has the same economic effect as a higher interest rate. This is sometimes referred to as a banker's dozen, a play on "baker's dozen" – owe twelve (a dozen), receive a loan of eleven (a banker's dozen). Note that the effective interest rate is not equal to the discount: if one borrows \$10 and must repay \$11, then this is  $(\$11 - \$10)/\$10 = 10$  percent interest; however, if one borrows \$9 and must repay \$10, then this is  $(\$10 - \$9)/\$9 = 11\text{-}1/9$  percent interest.

There are three main ways repayment may be structured: the entire principal balance may be due at the maturity of the loan; the entire principal balance may be amortized over the term of the loan; or the loan may partially amortized during its term, with the remaining principal due as a "balloon payment" at maturity.

Amortization structures are common in mortgages and credit cards.

Debtors of every type default on their debt from time to time, with various consequences depending on the terms of the debt and the law governing default in the relevant jurisdiction. If the debt was secured by specific collateral, such as a car or home, the creditor may seek to repossess the collateral. In more serious circumstances, individuals and companies may go into bankruptcy.

Riskier borrowers must generally pay higher rates of interest to compensate lenders for taking on the additional risk of default. Debt investors assess the risk of default prior to making a loan, for example through credit scores and corporate and sovereign ratings.

Common types of debt owed by individuals and households include mortgage loans, car loans, and credit card debt. For individuals, debt is a means of using anticipated income and future purchasing power in the present before it has actually been earned. Commonly, people in industrialized nations use consumer debt to purchase houses, cars and other things too expensive to buy with cash on hand.

People are more likely to spend more and get into debt when they use credit cards vs. cash for buying products and services. This is primarily because of the transparency effect and consumer's "pain of paying." The transparency effect refers to the fact that

the further you are from cash (as in a credit card or another form of payment), the less transparent it is and the less you remember how much you spent. The less transparent or further away from cash, the form of payment employed is, the less an individual feels the “pain of paying” and thus is likely to spend more. Furthermore, the differing physical appearance/form that credit cards have from cash may cause them to be viewed as “monopoly” money vs. real money, luring individuals to spend more money than they would if they only had cash available.

Besides these more formal debts, private individuals also lend informally to other people, mostly relatives or friends. One reason for such informal debts is that many people, in particular those who are poor, have no access to affordable credit. Such debts can cause problems when they are not paid back according to expectations of the lending household. In 2011, 8 percent of people in the European Union reported their households has been in arrears, that is, unable to pay as scheduled “payments related to informal loans from friends or relatives not living in your household”.

A company may use various kinds of debt to finance its operations as a part of its overall corporate finance strategy.

A term loan is the simplest form of corporate debt. It consists of an agreement to lend a fixed amount of money, called the principal sum or principal, for a fixed period of time, with this amount to be repaid by a certain date. In commercial loans interest, calculated as a percentage of the principal sum per year, will also have to be paid by that date, or may be paid periodically in the interval, such as annually or monthly. Such loans are also colloquially called “bullet loans”, particularly if there is only a single payment at the end – the “bullet” – without a “stream” of interest payments during the life of the loan.

A syndicated loan is a loan that is granted to companies that wish to borrow more money than any single lender is prepared to risk in a single loan. A syndicated loan is provided by a group of lenders and is structured, arranged, and administered by one or several commercial banks or investment banks known as arrangers. Loan syndication is a risk management tool that allows the lead banks underwriting the debt to reduce their risk and free up lending capacity.

A company may also issue bonds, which are debt securities. Bonds have a fixed lifetime, usually a number of years; with long-term bonds, lasting over 30 years, being less common. At the end of the bond's life the money should be repaid in full. Interest may be added to the end payment, or can be paid in regular installments (known as coupons) during the life of the bond.



A letter of credit or LC can also be the source of payment for a transaction, meaning that redeeming the letter of credit will pay an exporter. Letters of credit are used primarily in international trade transactions of significant value, for deals between a supplier in one country and a customer in another. They are also used in the land development process to ensure that approved public facilities (streets, sidewalks, stormwater ponds, etc.) will be built. The parties to a letter of credit are usually a beneficiary who is to receive the money, the issuing bank of whom the applicant is a client, and the advising bank of whom the beneficiary is a client. Almost all letters of credit are irrevocable, i.e., cannot be amended or canceled without prior agreement of the beneficiary, the issuing bank and the confirming bank, if any. In executing a transaction, letters of credit incorporate functions common to giros and traveler's cheque. Typically, the documents a beneficiary has to present in order to receive payment include a commercial invoice, bill of lading, and a document proving the shipment was insured against loss or damage in transit. However, the list and form of documents is open to imagination and negotiation and might contain requirements to present documents issued by a neutral third party evidencing the quality of the goods shipped, or their place of origin.

Companies also use debt in many ways to leverage the investment made in their assets, "leveraging" the return on their equity. This leverage, the proportion of debt to equity, is considered important in determining the riskiness of an investment; the more debt per equity, the riskier.

Governments issue debt to pay for ongoing expenses as well as major capital projects. Government debt may be issued by sovereign states as well as by local governments, sometimes known as municipalities.

The overall level of indebtedness by a government is typically shown as a ratio of debt-to-GDP. This ratio helps to assess the speed of changes in government indebtedness and the size of the debt due.

The debt service coverage ratio is the ratio of income available to the amount of debt service due (including both interest and principal amortization, if any). The higher the debt service coverage ratio, the more income is available to pay debt service, and the easier and lower-cost it will be for a borrower to obtain financing.

The loan-to-value ratio is the ratio of the total amount of the loan to the total value of the collateral securing the loan.

A debt obligation is considered secured if creditors have recourse to specific collateral. Collateral may include claims on tax receipts (in the case of a

government), specific assets (in the case of a company) or a home (in the case of a consumer). Unsecured debt comprises financial obligations for which creditors do not have recourse to the assets of the borrower to satisfy their claims.

Specific bond debts owed by both governments and private corporations are rated by rating agencies, such as Moody's, Standard & Poor's, Fitch Ratings, and A. M. Best. The government or company itself will also be given its own separate rating. These agencies assess the ability of the debtor to honor his obligations and accordingly give him or her a credit rating. Moody's uses the letters *Aaa Aa A Baa Ba B Caa Ca C*, where ratings *Aa-Caa* are qualified by numbers 1-3. S&P and other rating agencies have slightly different systems using capital letters and +/- qualifiers. Thus a government or corporation with a high rating would have *Aaa* rating.

A change in ratings can strongly affect a company, since its cost of refinancing depends on its creditworthiness. Bonds below *Baa/BBB* (Moody's/S&P) are considered junk or high-risk bonds. Their high risk of default (approximately 1.6 percent for *Ba*) is compensated by higher interest payments. Bad Debt is a loan that can not (partially or fully) be repaid by the debtor. The debtor is said to default on his debt. These types of debt are frequently repackaged and sold below face value. Buying junk bonds is seen as a risky but potentially profitable investment.

Bonds are debt securities, tradeable on a bond market. A country's regulatory structure determines what qualifies as a security. For example, in North America, each security is uniquely identified by a CUSIP for trading and settlement purposes. In contrast, loans are not securities and do not have CUSIPs (or the equivalent). Loans may be sold or acquired in certain circumstances, as when a bank syndicates a loan.

Loans can be turned into securities through the securitization process. In a securitization, a company sells a pool of assets to a securitization trust, and the securitization trust finances its purchase of the assets by selling securities to the market. For example, a trust may own a pool of home mortgages, and be financed by residential mortgage-backed securities. In this case, the asset-backed trust is a debt issuer of residential mortgage-backed securities.

Central banks, such as the U.S. Federal Reserve System, play a key role in the debt markets. Debt is normally denominated in a particular currency, and so changes in the valuation of that currency can change the effective size of the debt. This can happen due to inflation or deflation, so it can happen even though the borrower and the lender are using the same currency. Some argue against debt as an instrument and institution, on a personal, family, social, corporate and governmental level. Islam forbids lending

with interest even today. In hard times, the cost of servicing debt can grow beyond the debtor's ability to pay, due to either external events (income loss) or internal difficulties (poor management of resources).

Debt will increase through time if it is not repaid faster than it grows through interest. This effect may be termed usury, while the term "usury" in other contexts refers only to an excessive rate of interest, in excess of a reasonable profit for the risk accepted.

In international legal thought, odious debt is debt that is incurred by a regime for purposes that do not serve the interest of the state. Such debts are thus considered by this doctrine to be personal debts of the regime that incurred them and not debts of the state. International Third World debt has reached the scale that many economists are convinced that debt relief or debt cancellation is the only way to restore global equity in relations with the developing nations .

Excessive debt accumulation has been blamed for exacerbating economic problems. For example, before the Great Depression, the debt-to-GDP ratio was very high. Economic agents were heavily indebted. This excess of debt, equivalent to excessive expectations on future returns, accompanied asset bubbles on the stock markets. When expectations corrected, deflation and a credit crunch followed. Deflation effectively made debt more expensive and, as Fisher explained, this reinforced deflation again, because, in order to reduce their debt level, economic agents reduced their consumption and investment. The reduction in demand reduced business activity and caused further unemployment. In a more direct sense, more bankruptcies also occurred due both to increased debt cost caused by deflation and the reduced demand.

At the household level, debts can also have detrimental effects — particularly when households make spending decisions assuming income will increase, or remain stable, in years to come. When households take on credit based on this assumption, life events can easily change indebtedness into over-indebtedness. Such life events include unexpected unemployment, relationship break-up, leaving the parental home, business failure, illness, or home repairs. Over-indebtedness has severe social consequences, such as financial hardship, poor physical and mental health, family stress, stigma, difficulty obtaining employment, exclusion from basic financial services ,work accidents and industrial disease, a strain on social relations , absenteeism at work and lack of organisational commitment , feeling of insecurity, and relational tensions.

Global debt underwriting grew 4.3 percent year-over-year to US\$5.19 trillion during 2004. It is expected to rise in the coming years if the spending habits of millions of people worldwide continue the way they do.

# Customs

Customs is an authority or agency in a country responsible for collecting tariffs and for controlling the flow of goods, including animals, transports, personal, and hazardous items, into and out of a country. The movement of people into and out of a country is normally monitored by migration authorities, under a variety of names and arrangements. Immigration authorities normally check for appropriate documentation, verify that a person is entitled to enter the country, apprehend people wanted by domestic or international arrest warrants, and impede the entry of people deemed dangerous to the country. Compare illegal emigration.

Many places also use K9 units.

Each country has its own laws and regulations for the import and export of goods into and out of a country, which its customs authority enforces. The import or export of some goods may be restricted or forbidden. In most countries, customs are attained through government agreements and international laws. A customs duty is a tariff or tax on the importation (usually) or exportation (unusually) of goods. Commercial goods not yet cleared through customs are held in a customs area, often called a bonded store, until processed. All authorized ports are recognized customs areas.

At airports, customs functions as the point of no return for all passengers; once passengers have cleared customs, they cannot go back.

In many countries, customs procedures for arriving passengers at many international airports and some road crossings are separated into red and green channels. Passengers with goods to declare (carrying goods above the permitted customs limits and/or carrying prohibited items) go through the red channel. Passengers with nothing to declare (carrying goods within the permitted customs limits and not carrying prohibited items) go through the green channel. However, entry into a particular channel constitutes a legal declaration, if a passenger going through the green channel is found to be carrying goods above the customs limits or prohibited items, he or she may be prosecuted for making a false declaration to customs, by virtue of having gone through the green channel. Each channel is a point of no return, once a passenger has entered a particular channel, they can not go back.

Australia, Canada, New Zealand, and the United States do not officially operate a red and green channel system; however, some airports copy this layout.

Airports in EU countries such as Finland, Ireland or the United Kingdom, also have a blue channel. As the EU is a customs union, travellers between EU countries do not have to pay customs duties. Value-added tax and excise duties may be applicable if the goods are subsequently sold, but these are collected when the goods are sold, not at the border. Passengers arriving from other EU countries go through the blue channel, where they may still be subject to checks for prohibited or restricted goods. Luggage tickets for checked luggage travelling within the EU are green-edged so they may be identified. In most EU member states, travellers coming from other EU countries can simply use the green lane.

All airports in the United Kingdom operate a channel system, however some don't have a red channel, they instead have a red point phone which serves the same purpose.

Customs is part of one of the three basic functions of a government, namely: administration; maintenance of law, order, and justice; and collection of revenue. However, in a bid to mitigate corruption, many countries have partly privatised their customs. This has occurred by way of contracting pre-shipment inspection agencies, which examine the cargo and verify the declared value before importation occurs. The country's customs is obliged to accept the agency's report for the purpose of assessing duties and taxes at the port of entry.

While engaging a pre-shipment inspection agency may appear justified in a country with an inexperienced or inadequate customs establishment, the measure has not been able to plug the loophole and protect revenue. It has been found that evasion of customs duty escalated when pre-shipment agencies took over. It has also been alleged that involvement of such agencies has caused shipping delays. Privatization of customs has been viewed as a fatal remedy.

### **Summary of basic custom rules**

The basic customs law is harmonized across Europe within the European Union Customs Union. This includes customs duties and restrictions. Customs tax from €22 to €150. In addition, see regulations of each member state.

For customs declarations in the EU and in Switzerland, Norway and Iceland, the "Single Administrative Document" (SAD) is used as a basis.

Up to €22, there are no taxes. From €22 up to €150, it is necessary to pay VAT (EUST in Germany), which is 7% or 19% depending on the goods. From €150 it is necessary to pay VAT and customs.

Romania Customs may be very strict, especially for goods shipped from anywhere outside the EU. Up to €10 goods/package.

Customs in Italy takes additional 22% VAT (Value-added tax) for goods imported from outside the European Union even if the VAT is already paid to the origin country sender.

Up to €22, there are no taxes. From €22 up to €150, it is necessary to pay VAT (DPH in Czech/Slovak), which is 21%. From €150, it is necessary to pay VAT and customs. Customs may range from zero to 10% depending on the type of imported goods.

The United States imposes tariffs or "customs duties" on imports of goods: 3% on average. The duty is levied at the time of import and is paid by the importer of record. Individuals arriving in the United States may be exempt from duty on a limited amount of purchases, and on goods temporarily imported (such as laptop computers) under the ATA Carnet system. Customs duties vary by country of origin and product, with duties ranging from zero to 81% of the value of the goods. Goods from many countries are exempt from duty under various trade agreements. Certain types of goods are exempt from duty regardless of source. Customs rules differ from other import restrictions. Failure to comply with customs rules can result in seizure of goods and civil and criminal penalties against involved parties. The U.S. Customs and Border Protection (CBP) enforces customs rules. All goods entering the United States are subject to inspection by CBP prior to legal entry.

Argentina Customs may be very strict. Up to u\$300 overall, there are no taxes. From to u\$300 to u\$1500, tax is 50% of the value of all acquired goods summed up.

# Demand

In economics, demand is the quantity of a commodity or a service that people are willing or able to buy at a certain price, per unit of time.

The relationship between price and quantity demanded is also known as demand curve. Preferences and choices, which underlie demand, can be represented as functions of cost, benefit, odds and other variables.

Determinants of (Factors affecting) demand Innumerable factors and circumstances could affect a buyer's willingness or ability to buy a good. Some of the common factors are:

**Good's own price:** The basic demand relationship is between potential prices of a good and the quantities that would be purchased at those prices. Generally the relationship is negative meaning that an increase in price will induce a decrease in the quantity demanded. This negative relationship is embodied in the downward slope of the consumer demand curve. The assumption of a negative relationship is reasonable and intuitive. If the price of a new novel is high, a person might decide to borrow the book from the public library rather than buy it.

**Price of related goods:** The principal related goods are complements and substitutes. A complement is a good that is used with the primary good. Examples include hotdogs and mustard, beer and pretzels, automobiles and gasoline. (Perfect complements behave as a single good.) If the price of the complement goes up the quantity demanded of the other good goes down.

Mathematically, the variable representing the price of the complementary good would have a negative coefficient in the demand function. For example,  $Q_d = a - P - P_g$  where  $Q$  is the quantity of automobiles demanded,  $P$  is the price of automobiles and  $P_g$  is the price of gasoline. The other main category of related goods are substitutes. Substitutes are goods that can be used in place of the primary good. The mathematical relationship between the price of the substitute and the demand for the good in question is positive. If the price of the substitute goes down the demand for the good in question goes down.

**Personal Disposable Income:** In most cases, the more disposable income (income after tax and receipt of benefits) a person has the more likely that person is to buy.

**Tastes or preferences:** The greater the desire to own a good the more likely one is to buy the good. There is a basic distinction between desire and demand.

Desire is a measure of the willingness to buy a good based on its intrinsic qualities. Demand is the willingness and ability to put one's desires into effect. It is assumed that tastes and preferences are relatively constant.

**Consumer expectations about future prices, income and availability:** If a consumer believes that the price of the good will be higher in the future, he/she is more likely to purchase the good now. If the consumer expects that his/her income will be higher in the future, the consumer may buy the good now.

**Availability (supply side)** as well as predicted or expected availability also affects both price and demand.

**Population:** If the population grows this means that demand will also increase.

**Nature of the good:** If the good is a basic commodity, it will lead to a higher demand

- This list is not exhaustive. All facts and circumstances that a buyer finds relevant to his willingness or ability to buy goods can affect demand. For example, a person caught in an unexpected storm is more likely to buy an umbrella than if the weather were bright and sunny.

#### Market structure and the demand curve

In perfectly competitive markets the demand curve, the average revenue curve, and the marginal revenue curve all coincide and are horizontal at the market-given price. The demand curve is perfectly elastic and coincides with the average and marginal revenue curves. Economic actors are price-takers. Perfectly competitive firms have zero market power; that is, they have no ability to affect the terms and conditions of exchange. A perfectly competitive firm's decisions are limited to whether to produce and if so, how much. In less than perfectly competitive markets the demand curve is negatively sloped and there is a separate marginal revenue curve. A firm in a less than perfectly competitive market is a price-setter. The firm can decide how much to produce or what price to charge. In deciding one variable the firm is necessarily determining the other variable .

Demand management in economics is the art or science of controlling economic or aggregate demand to avoid a recession. Such management is inspired by Keynesian macroeconomics, and Keynesian economics is sometimes referred to as demand-side economics.



## Different types of goods demand

**Negative demand:** If the market response to a product is negative, it shows that people are not aware of the features of the service and the benefits offered. Under such circumstances, the marketing unit of a service firm has to understand the psyche of the potential buyers and find out the prime reason for the rejection of the service. For example: if passengers refuse a bus conductor's call to board the bus. The service firm has to come up with an appropriate strategy to remove the misunderstandings of the potential buyers. A strategy needs to be designed to transform the negative demand into a positive demand.

**No demand:** If people are unaware, have insufficient information about a service or due to the consumer's indifference this type of a demand situation could occur. The marketing unit of the firm should focus on promotional campaigns and communicating reasons for potential customers to use the firm's services. Service differentiation is one of the popular strategies used to compete in a no demand situation in the market.

**Latent demand:** At any given time it is impossible to have a set of services that offer total satisfaction to all the needs and wants of society. In the market there exists a gap between desirables and the availables. There is always a search on for better and newer offers to fill the gap between desirability and availability. Latent demand is a phenomenon of any economy at any given time, it should be looked upon as a business opportunity by service firms and they should orient themselves to identify and exploit such opportunities at the right time. For example, a passenger traveling in an ordinary bus dreams of traveling in a luxury bus. Therefore, latent demand is nothing but the gap between desirability and availability.

**Seasonal demand:** Some services do not have an all year round demand, they might be required only at a certain period of time. Seasons all over the world are very diverse. Seasonal demands create many problems to service organizations, such as:- idling the capacity, fixed cost and excess expenditure on marketing and promotions. Strategies used by firms to overcome this hurdle are like - to nurture the service consumption habit of customers so as to make the demand unseasonal, or other than that firms recognize markets elsewhere in the world during the off-season period. Hence, this presents an opportunity to target different markets with the appropriate season in different parts of the world. For example, the need for Christmas cards comes around once a year. Or the, seasonal fruits in a country.

Demand patterns need to be studied in different segments of the market. Service organizations need to constantly study changing demands related to their service offerings over various time periods. They have to develop a system to chart these

demand fluctuations, which helps them in predicting the demand cycles. Demands do fluctuate randomly, therefore, they should be followed on a daily, weekly or a monthly basis.

E. F. Schumacher challenges the prevailing economic assumption that fulfilling demand is the purpose of economic activity, offering a framework of what he calls "Buddhist economics" in which wise demands, fulfilling genuine human needs, are distinguished from unwise demands, arising from the five intellectual impairments recognized by Buddhism:

The cultivation and expansion of needs is the antithesis of wisdom. It is also the antithesis of freedom and peace. Every increase of needs tends to increase one's dependence on outside forces over which one cannot have control, and therefore increases existential fear. Only by a reduction of needs can one promote a genuine reduction in those tensions which are the ultimate causes of strife and war.

## Demand-led growth

Demand-led growth is the foundation of an economic theory claiming that an increase in aggregate demand will ultimately cause an increase in total output in the long run. This is based on a hypothetical sequence of events where an increase in demand will, in effect, stimulate an increase in supply (within resource limitations). This stands in opposition to the common neo-classical theory that demand follows supply, and consequently, that supply determines growth in the long run.

The demand-centric theory is built on the foundation of work by thinkers such as John Maynard Keynes, Michał Kalecki, Petrus Verdoorn, and Nicholas Kaldor; and is expanded on through research by organizations like the ILO and the Levy Economics Institute of Bard College.

Within the theory of demand-led growth, there exist two schools of thought. The first claims that an increase in wage share is the impetus for growth. A study by the ILO, to illustrate, concluded that higher wage shares correlate with increased productivity, and suggests policies including "improved union legislation" and "increasing the reach of collective bargaining agreements" to assist in increasing wage shares. The second school gives preference to the notion of profit-led growth, which maintains the rationale that the profit-seeking behavior of individual firms is the primary source of increased total output; although many who follow this school of thought do acknowledge the possibility that negative effects on consumption that result from a higher profit share will be felt in the long run. To offer an example, a study by Robert A. Blecker, professor of economics at American University, found that both labor share and general economic activity in the United States were lower in the neo-liberal era than in the post-WWII era, while still maintaining that a higher profit share is associated with faster GDP growth, higher capacity utilization, and more rapid capital accumulation in the short run.

The theory of profit-led demand suggests that a focus on investment by increasing profit shares outweighs the potentially negative effects of lower wage shares on consumption in an economy. Demand is profit-led only when the effect of distribution on net exports is high enough to offset the effects on domestic demand, and this is likely only in small, open economies. In other words, an economy that has a high net-export to consumption ratio is by definition profit-led. Several economists believe that most economies are profit-led in the short run, however, they challenge the long term viability of the theory by suggesting that it could be a race to the bottom.

The Middle Income Trap theory explains the tendencies of export-oriented or profit-led economies. It suggests that an economy that focuses on the exportation of goods as a source of growth or has a comparative advantage in the manufacture of a good will ultimately lose its competitive edge in the manufacturing of that good because wages will be on an upward trend. When wages are increased, the economy will no longer be able to sustain the comparative advantage. Consequently, exports will decrease and the economy will endure a period of stagnation that stalls growth of income.

An economy is wage-led if the positive effect of a higher wage share on consumption dominates the potentially negative effects on investment and net exports. A redistribution of income toward wages boosts consumption demand because of the higher marginal propensity to consume derived from wages compared with the same measure derived from profits. The *Review of Keynesian Economics* suggest that mainstream models attach only one single role to wages: as a cost item. Thereby, they recognize only the positive effects that follow a decrease in wages: it will improve competitiveness and, ultimately, increase net exports, and it will have a positive effect on investment due to increased profitability. However, in post-Keynesian and Kaleckian models, wages have a dual role as both a cost item and a source of demand. While post-Keynesian models acknowledge the first two effects, they add a crucial element which is missing in the mainstream models: a wage decrease (or, to be precise, a decrease in the share of wages in national income) will certainly suppress domestic consumption, since the marginal propensity to consume out of wages is higher than that out of profits.

A wage-led growth strategy aims at establishing a full-employment growth model in which sustained wage growth drives demand growth via consumption growth and via accelerator effects of investment growth, as well as productivity growth via labor-saving-induced technological change. Due to this strategy's repeating itself in a cyclical manner, this theory is thought to be more stable in the long run than profit-led growth because a wage-led growth strategy will result in stable or rising wage shares if it follows the circular cumulative causation behavior. This theory commands slower paced growth and is more viable in the long run, however, it relies heavily on technological change to redistribute wages and labor in order to continue along the cumulative causation trend. A wage-led growth strategy includes measures to restrict financial speculation, encourage a more long-term view in corporate governance, strengthen the role of stakeholders, and rein in excessive pay in the financial sector. A

restructuring of the financial sector is needed to prevent or reduce the frequency and severity of financial crises. Such measures are likely to include restrictions on bank bonuses, financial transactions taxes, pro-cyclical credit management, regulation of the shadow banking industry, and closing of secrecy jurisdictions (tax havens), as well as the establishment of a sizable not-for-profit segment within the banking industry and a strengthening of stakeholders within corporate governance that will also lead to an improvement in labor's bargaining power and the wage share.

Demand-led regimes use specific monetary and fiscal policy objectives to increase aggregate demand. All G20 countries are considered demand-led regimes. Policymakers will identify specific factors that influence aggregate demand, and implement policies that will increase demand. This can occur in many ways, a common objective involves keeping price levels low in an effort to entice consumers to purchase goods. Demand-led regimes can be identified in the two forms described above, either wage-led or profit-led.

Demand-led regimes do not expressly state their policy objectives as demand-led. In large economies, economic targets that affect aggregate demand are often identified on a micro-level, and demand-led growth may be the result of legislation, regulation, or administrative changes.

State, local, and city economies in the United States are overwhelmingly demand-led. Economies that trust upon *local* investment, wages, and production will ultimately rely upon increased local demand to increase economic output. The political and social structure of the U.S. economy has created an atmosphere that allows domestic demand-led growth to flourish within its borders.

Studies have produced mixed results as to whether the U.S. operates under a profit-led or wage-led demand regime. However, recent political movements in the U.S. have increased the chances that the minimum wage there will nearly double, which raises the possibility that the U.S. will develop more distinctly under a wage-led demand regime.

Policies that drive wages up can be categorized under wage-led growth. In addition, fiscal and monetary policies that allow for or promote private organizations that give collective bargaining rights to laborers contribute to the wage-led growth theory. Much of the growth in the United States' economy that arguably came as a result of the boom in labor union participation during the post-WWII era could be described as an example of demand-led growth in action.

The U.S. state of Maryland, several major cities, and some municipalities have passed laws which require cost of living wage increases that are commensurate with the cost of living for the respective geographic regions. Living wage ordinances only affect businesses that have government contracts, as the wage is set well above the federal or state minimum wage.

Some U.S. cities have doubled the federal minimum wage in an effort to meet cost of living increases in major metropolitan areas. In 2015, the city of Seattle, Washington set a policy goal of raising minimum wage within city limits to \$15 per hour by 2021. This will be the first domestic test of a demand-led growth shock, and economists are anxious to see what the results will be with respect to job growth, increased investment, and overall economic expansion.

Significant attention has been awarded to the issues of income distribution and wealth inequality recently in the U.S. news and media, a response to evidence that growth in income in the country over the past few decades has been distributed primarily in favor of the top 1% of the population, while the lower 99% have experienced much slower relative income growth. Often referred to as a key factor in the advent that is the alleged "shrinking middle class," changes in income distribution have been said to weaken demand due to the resulting imbalances between various income groups' marginal propensities to consume. Socioeconomic groups with a high marginal propensity to consume tend to affect growth more significantly than those without a high marginal propensity to consume by creating a strong and stable source of demand. Additionally, a strong middle class contributes to demand-led growth by supporting education, providing human capital, enabling entrepreneurship, and acting as the foundation for inclusive political and economic institutions. Various entities and groups play a role in the general response to an increase in aggregate demand, and there is an obvious diversity among the winners and losers when such economic changes take place.

# Demand curve

In economics, the demand curve is the graph depicting the relationship between the price of a certain commodity and the amount of it that consumers are willing and able to purchase at any given price. It is a graphic representation of a market demand schedule. The demand curve for all consumers together follows from the demand curve of every individual consumer: the individual demands at each price are added together, assuming independent decision-making.

Demand curves are used to estimate behaviors in competitive markets, and are often combined with supply curves to estimate the equilibrium price (the price at which sellers together are willing to sell the same amount as buyers together are willing to buy, also known as market clearing price) and the equilibrium quantity (the amount of that good or service that will be produced and bought without surplus/excess supply or shortage/excess demand) of that market. In a monopolistic market, the demand curve facing the monopolist is simply the market demand curve.

Demand curves are usually considered as theoretical structures that are expected to exist in the real world, but real world measurements of actual demand curves are difficult and rare.

According to convention, the demand curve is drawn with price on the vertical (y) axis and quantity on the horizontal (x) axis. The function actually plotted is the inverse demand function.

The demand curve usually slopes downwards from left to right; that is, it has a negative association. The negative slope is often referred to as the "law of demand", which means people will buy more of a service, product, or resource as its price falls. The demand curve is related to the marginal utility curve, since the price one is willing to pay depends on the utility. However, the demand directly depends on the income of an individual while the utility does not. Thus it may change indirectly due to change in demand for other commodities.

However, with Veblen goods, such as status symbols, the utility value of the good is largely the price and demand is higher at higher prices and the demand curve may curve upwards. With a Giffen good the price is taken by the market as a signal of quality, irrespective of the true nature of the product, and hence demand may be very low when priced low and increase at higher price points.

The shift of a demand curve takes place when there is a change in any non-price determinant of demand, resulting in a new demand curve. Non-price determinants of demand are those things that will cause demand to change even if prices remain the same—in other words, the things whose changes might cause a consumer to buy more or less of a good even if the good's own price remained unchanged. Some of the more important factors are the prices of related goods (both substitutes and complements), income, population, and expectations. However, demand is the willingness and ability of a consumer to purchase a good *under the prevailing circumstances*; so, any circumstance that affects the consumer's willingness or ability to buy the good or service in question can be a non-price determinant of demand. As an example, weather could be a factor in the demand for beer at a baseball game.

When income increases, the demand curve for normal goods shifts outward as more will be demanded at all prices, while the demand curve for inferior goods shifts inward due to the increased attainability of superior substitutes. With respect to related goods, when the price of a good (e.g. a hamburger) rises, the demand curve for substitute goods (e.g. chicken) shifts out, while the demand curve for complementary goods (e.g. tomato sauce) shifts in (i.e. there is more demand for substitute goods as they become more attractive in terms of value for money, while demand for complementary goods contracts in response to the contraction of quantity demanded of the underlying good).

#### Demand shifters

- Changes in disposable income, the magnitude of the shift also being related to the income elasticity of demand.
- Changes in tastes and preferences—tastes and preferences are assumed to be fixed in the short-run. This assumption of fixed preferences is a necessary condition for aggregation of individual demand curves to derive market demand.
- Changes in expectations.
- Changes in the prices of related goods (substitutes and complements)
- Population size and composition
- N.B. Whilst variations in the price of the actual product affects the overall quantity demanded, economists do not consider price to affect the demand curve.

A number of business publications have published opinion pieces on the actions that raise demand.



### Factors affecting market demand

Market or aggregate demand is the summation of individual demand curves. In addition to the factors which can affect individual demand there are three factors that can affect market demand (cause the market demand curve to shift):

- a change in the number of consumers,
- a change in the distribution of tastes among consumers,
- a change in the distribution of income among consumers with different tastes.

Some circumstances which can cause the demand curve to shift in include:

- Decrease in price of a substitute
- Increase in price of a complement
- Decrease in income if good is normal good
- Increase in income if good is inferior good

# Demand chain

Analysing the firm's activities as a linked chain is a tried and tested way of revealing value creation opportunities. The business economist Michael Porter of Harvard Business School pioneered this value chain approach: "the value chain disaggregates the firm into its strategically relevant activities in order to understand the costs and existing potential sources of differentiation". It is the micro mechanism at the level of the firm that equalizes supply and demand at the macro market level.

Early applications in distribution, manufacturing and purchasing collectively gave rise to a subject known as the supply chain. Old supply chains have been transformed into faster, cheaper and more reliable modern supply chains as a result of investment in information technology, cost-analysis and process-analysis.

Marketing, sales and service are the other half of the value-chain, which collectively drive and sustain demand, and are known as the Demand Chain. Progress in transforming the demand side of business is behind the supply side, but there is growing interest today in transforming demand chains.

At present, there appear to be four main challenges to progress in transforming Demand Chains and making them faster, leaner and better:

- Linking Supply Chains to Demand
- Demand Chain Information Systems
- Demand Chain Process Re-Engineering
- Demand Chain Resource Distribution and Optimisation

The challenge of improving the link between demand and supply has occupied many supply chain specialists in recent years; and concepts such as "demand-driven supply chains", and customer-driven supply chains have attracted attention and have become the subject of conferences and seminars.

The fundamental attribute of a "demand driven" supply chain is, unsurprisingly, that material movements (or replenishment execution) are directly triggered by demand itself. Those parts of a supply chain that directly responds to orders, such as "make to order" or "assemble to order" are, therefore, "demand driven".

"Make to stock" supply chains can also be "demand driven" if individual echelon replenishment quantities are determined by the need to simply replace stock that has been consumed by the immediate downstream activity (i.e.. sold to a customer, used by a manufacturing process or moved to another distribution location). This is in contrast to "forecast push" supply chains in which the customer facing echelon replenishment quantity is calculated using a forecast of future requirements and a minimum stock balance (i.e. safety stock) while all upstream activities are coupled directly to the forecast using MRP calculations.

Due to inevitable forecast inaccuracy, "forecast push" supply chains suffer excessive and unbalanced stock levels and, despite a great deal of expediting (and associated costs) are prone to service issues. Such supply chains also experience the bullwhip effect. This occurs due to forecast error being amplified as it cascades up the supply chain and it has the unintended consequence of driving up supply chain costs and service issues, due to supply capacity being unable to meet the spiky demand pattern and the entire chain becoming unstable as a consequence. By contrast, "demand driven" supply chains are protected from the need to be buffered from variability and bullwhip by the impact of "process decoupling" and are thus able to meet planned service levels with significantly lower inventory levels and capacity costs. ("Factory Physics" 1996, Hopp & Spearman)

"Demand driven" supply chains do use forecasts for the purposes of planning – but not replenishment execution. Forecasts are used for capacity and financial planning which are the main components of "Sales and Operations Planning". The accuracy and strategic value of S&OP is actually enhanced when supply chains are "demand driven" because they are less prone to unplanned capacity utilisation, "fire fighting" and focusing upon resolving current performance issues (i.e.. inventory and service). "Demand driven" supply chains also use forecasts for Event Management (e.g.. stock build for anticipated events) when postponement strategies are not an option.

Information about activities and costs is an essential resource for improving value chain performance. Such information is nowadays readily available for the supply chain, due to the widespread implementation of ERP technology (systems such as SAP), and these systems have been instrumental in the transformation of supply chain performance.

Demand chain IT development has focused on database marketing and CRM systems. Demand driving activities and associated costs are still recorded in an inconsistent manner, mostly on spreadsheets and even then the quality of the information tends to be incomplete and inaccurate.

Recently, however, marketing resource management systems have become available to plan, track and measure activities and costs as an embedded part of marketing workflows.

"MRM is a set of processes and capabilities that aim to enhance your ability to orchestrate and optimize the use of internal and external marketing resources...The desire to deal with increased marketing complexity, along with a mandate to do more with less, are the primary drivers behind the growth of MRM"

Implementation of MRM systems often reveals process issues that must be tackled, as Gartner have observed

"All too often, large enterprises lack documented or standardized marketing processes — resulting in misalignments, inconsistencies and wasted effort. Marketing personnel frequently rotate job responsibilities. Along with thwarting progress toward best practices and processes, this disarray contributes to a loss of corporate memory and key lessons learned. The elongated learning curve affects new or transferred employees as they struggle to find information or have to relearn what the organization, in effect, already "knows."

Demand chain budgets for marketing, sales and service expenditure are substantial. Maximising their impact on shareholder value has become an important financial goal for decision makers. Developing a shared language across marketing and finance is one the challenges to achieving this goal.

Segmentation is the initial thing to decide. From a strategic finance perspective "segments are responsibility centers for which a separate measure of revenues and costs is obtained". From a marketing perspective "segmentation is the act of dividing the market into distinct groups of buyers who might require separate products and/or marketing mixes". An important challenge for decision makers is how to align these two marketing and finance perspectives on segmentation.

Targeting of the budget is the final thing to decide. From the marketing perspective the challenge is how "to optimally allocate a given marketing budget to various target markets". From a finance perspective the problem is one of resource and budget allocation "determining the right quantity of resources to implement the value maximising strategy".

Optimization provides the technical basis for targeting decisions. Whilst mathematical optimization theory has been in existence since the 1950s, its application to marketing only began in the 1970s, and lack of data and computer power were limiting factors until the 1990s.

Since 2000, applying maths to budget segmentation, targeting and optimization has become more commonplace. In the UK the IPA Awards have documented over 1000 cases of modelling over 15 years, as part of their award process. The judging criteria are rigorous and not a matter of taste or fashion. Entrants must prove beyond all reasonable doubt that the marketing is profitable. It enables marketing to be brought centre stage in four important ways .

First, it translates the language of marketing and sales into the language of the boardroom. Finance and profits are the preferred language of the modern executive suite. Marketing and sales strategies have to be justified in terms of their ability to increase the financial value of the business. It provides a bridge between marketing and the other functions.

Second, it strengthens demand chain accountability. In Marketing Departments awareness, preference and satisfaction are often tracked as alternative objectives to shareholder value. In Sales Departments, sales promotion spending is often used to boost volumes, even when the result is unprofitable. Optimization modelling can assess these practices and support more rigorous accountability methods.

Third, it provides a counter-argument to the arbitrary cutting of demand-chain budgets. Return on marketing investment models can help demonstrate where financial impact of demand driving activities is positive and negative, and so help support fact-based budgeting.

Finally, demand-chain profitability modelling encourages a strategic debate. Because long-term cashflow and NPV calculations can show the shareholder value effect of marketing, sales and service, strong arguments can be made for putting the demand chain on an equal footing to the supply chain.

# Currency

A currency (from Middle English: *curraunt*, "in circulation", from Latin: *currens*, -*entis*), in the most specific use of the word, refers to money in any form when in actual use or circulation as a medium of exchange, especially circulating banknotes and coins. A more general definition is that a currency is a *system of money* (monetary units) in common use, especially in a nation. Under this definition, US dollars, British pounds, Australian dollars, and European euros are examples of currency. These various currencies are recognized stores of value and are traded between nations in foreign exchange markets, which determine the relative values of the different currencies. Currencies in this sense are defined by governments, and each type has limited boundaries of acceptance.

Other definitions of the term "currency" are discussed in their respective synonymous articles banknote, coin, and money. The latter definition, pertaining to the currency systems of nations, is the topic of this article. Currencies can be classified into two monetary systems: fiat money and commodity money, depending on what guarantees the value (the economy at large vs. the government's physical metal reserves). Some currencies are legal tender in certain political jurisdictions, which means they cannot be refused as payment for debt. Others are simply traded for their economic value. Digital currency has arisen with the popularity of computers and the Internet.

Originally money was a form of receipt, representing grain stored in temple granaries in Sumer in ancient Mesopotamia and later in Ancient Egypt.

In this first stage of currency, metals were used as symbols to represent value stored in the form of commodities. This formed the basis of trade in the Fertile Crescent for over 1500 years. However, the collapse of the Near Eastern trading system pointed to a flaw: in an era where there was no place that was safe to store value, the value of a circulating medium could only be as sound as the forces that defended that store. Trade could only reach as far as the credibility of that military. By the late Bronze Age, however, a series of treaties had established safe passage for merchants around the Eastern Mediterranean, spreading from Minoan Crete and Mycenae in the northwest to Elam and Bahrain in the southeast. It is not known what was used as a currency for these exchanges, but it is thought that ox-hide shaped ingots of copper, produced in Cyprus, may have functioned as a currency.

It is thought that the increase in piracy and raiding associated with the Bronze Age collapse, possibly produced by the Peoples of the Sea, brought the trading system of oxhide ingots to an end. It was only with the recovery of Phoenician trade in the 10th and 9th centuries BC that saw a return to prosperity, and the appearance of real coinage, possibly first in Anatolia with Croesus of Lydia and subsequently with the Greeks and Persians. In Africa, many forms of value store have been used, including beads, ingots, ivory, various forms of weapons, livestock, the manilla currency, and ochre and other earth oxides. The manilla rings of West Africa were one of the currencies used from the 15th century onwards to sell slaves. African currency is still notable for its variety, and in many places various forms of barter still apply.

These factors led to the metal itself being the store of value: first silver, then both silver and gold, and at one point also bronze. Now we have copper coins and other non-precious metals as coins. Metals were mined, weighed, and stamped into coins. This was to assure the individual taking the coin that he was getting a certain known weight of precious metal. Coins could be counterfeited, but they also created a new unit of account, which helped lead to banking. Archimedes' principle provided the next link: coins could now be easily tested for their fine weight of metal, and thus the value of a coin could be determined, even if it had been shaved, debased or otherwise tampered with .

Most major economies using coinage had several tiers of coins, using a mix of copper, silver and gold. Gold coins were used for large purchases, payment of the military and backing of state activities; they were more often used as measures of account than physical coins. Silver coins were used for midsized transactions, and as a unit of account for taxes, dues, contracts and fealty, while coins of copper, silver, or some mixture thereof were used for everyday transactions. This system had been used in ancient India since the time of the Mahajanapadas. The exact ratio in value of the three metals varied greatly in different eras and places; for example, the opening of silver mines in the Harz mountains of central Europe made silver relatively less valuable, as did the flood of New World silver after the Spanish conquests. However, the rarity of gold consistently made it more valuable than silver, and likewise silver was consistently worth more than copper.

In premodern China, the need for credit and for a medium of exchange that was less physically cumbersome than large numbers of copper coins led to the introduction of paper money, i.e. banknotes. Their introduction was a gradual process which lasted from the late Tang dynasty (618–907) into the Song dynasty (960–1279). It began as a means for merchants to exchange heavy coinage for receipts of deposit issued as promissory notes by wholesalers' shops. These notes were valid for temporary use in a small regional territory. In the 10th century, the Song dynasty government began

to circulate these notes amongst the traders in its monopolized salt industry. The Song government granted several shops the right to issue banknotes, and in the early 12th century the government finally took over these shops to produce state-issued currency. Yet the banknotes issued were still only locally and temporarily valid: it was not until the mid 13th century that a standard and uniform government issue of paper money became an acceptable nationwide currency. The already widespread methods of woodblock printing and then Pi Sheng's movable type printing by the 11th century were the impetus for the mass production of paper money in premodern China.

At around the same time in the medieval Islamic world, a vigorous monetary economy was created during the 7th–12th centuries on the basis of the expanding levels of circulation of a stable high-value currency (the dinar). Innovations introduced by Muslim economists, traders and merchants include the earliest uses of credit, cheques, promissory notes, savings accounts, transactional accounts, loaning, trusts, exchange rates, the transfer of credit and debt, and banking institutions for loans and deposits.

In Europe, paper money was first introduced on a regular basis in Sweden in 1661 (although Washington Irving records an earlier emergency use of it, by the Spanish in a siege during the Conquest of Granada). As Sweden was rich in copper, its low value necessitated extraordinarily big coins, often weighing several kilograms.

The advantages of paper currency were numerous: it reduced the need to transport gold and silver, which was risky; it facilitated loans of gold or silver at interest, since the underlying specie (gold or silver) never left the possession of the lender until someone else redeemed the note; and it allowed a division of currency into credit and specie backed forms. It enabled the sale of stock in joint-stock companies, and the redemption of those shares in paper.

But there were also disadvantages. First, since a note has no intrinsic value, there was nothing to stop issuing authorities from printing more notes than they had specie to back them with. Second, because it increased the money supply, it increased inflationary pressures, a fact observed by David Hume in the 18th century. Thus paper money would often lead to an inflationary bubble, which could collapse if people began demanding hard money, causing the demand for paper notes to fall to zero. The printing of paper money was also associated with wars, and financing of wars, and therefore regarded as part of maintaining a standing army. For these reasons, paper currency was held in suspicion and hostility in Europe and America. It was also addictive, since the speculative profits of trade and capital creation were quite large.



Major nations established mints to print money and mint coins, and branches of their treasury to collect taxes and hold gold and silver stock.

At that time, both silver and gold were considered legal tender, and accepted by governments for taxes. However, the instability in the ratio between the two grew over the course of the 19th century, with the increases both in supply of these metals, particularly silver, and in trade. The parallel use of both metals is called bimetallism, and the attempt to create a bimetallic standard where both gold and silver backed currency remained in circulation occupied the efforts of inflationists. Governments at this point could use currency as an instrument of policy, printing paper currency such as the United States Greenback, to pay for military expenditures. They could also set the terms at which they would redeem notes for specie, by limiting the amount of purchase, or the minimum amount that could be redeemed.

By 1900, most of the industrializing nations were on some form of gold standard, with paper notes and silver coins constituting the circulating medium. Private banks and governments across the world followed Gresham's law: keeping the gold and silver they received, but paying out in notes. This did not happen all around the world at the same time, but occurred sporadically, generally in times of war or financial crisis, beginning in the early part of the 20th century and continuing across the world until the late 20th century, when the regime of floating fiat currencies came into force. One of the last countries to break away from the gold standard was the United States in 1971, an action known as the Nixon shock. No country has an enforceable gold standard or silver standard currency system.

A banknote (more commonly known as a bill in the United States and Canada) is a type of currency, and commonly used as legal tender in many jurisdictions.

With coins, banknotes make up the cash form of all money. Banknotes are mostly paper, but Australia's Commonwealth Scientific and Industrial Research Organisation developed the world's first polymer currency in the 1980s that went into circulation on the nation's bicentenary in 1988. Now used in some 22 countries (over 40 if counting commemorative issues), polymer currency dramatically improves the life span of banknotes and prevents counterfeiting.

Currency use is based on the concept of *lex monetae*; that a sovereign state decides which currency it shall use. Currently, the International Organization for Standardization has introduced a three-letter system of codes (ISO 4217) to define currency (as opposed to simple names or currency signs), in order to remove the confusion that there are dozens of currencies called the dollar and many called the franc. Even the pound is used in nearly a dozen different countries; most of these

are tied to the Pound Sterling, while the remainder have varying values. In general, the three-letter code uses the ISO 3166-1 country code for the first two letters and the first letter of the name of the currency (D for dollar, for instance) as the third letter. United States currency, for instance is globally referred to as USD.

The International Monetary Fund uses a variant system when referring to national currencies.

Distinct from centrally controlled government-issued currencies, private decentralized trust networks support alternative currencies such as Bitcoin, Litecoin, Monero, Peercoin or Dogecoin, as well as branded currencies, for example 'obligation' based stores of value, such as quasi-regulated BarterCard, Loyalty Points (Credit Cards, Airlines) or Game-Credits (MMO games) that are based on reputation of commercial products, or highly regulated 'asset backed' 'alternative currencies' such as mobile-money schemes like MPESA (called E-Money Issuance).

Currency may be Internet-based and digital, for instance, Bitcoin is not tied to any specific country, or the IMF's SDR that is based on a basket of currencies .

In most cases, a central bank has a monopoly right to issue of coins and banknotes (fiat money) for its own area of circulation (a country or group of countries); it regulates the production of currency by banks (credit) through monetary policy.

An exchange rate is the price at which two currencies can be exchanged against each other. This is used for trade between the two currency zones. Exchange rates can be classified as either floating or fixed. In the former, day-to-day movements in exchange rates are determined by the market; in the latter, governments intervene in the market to buy or sell their currency to balance supply and demand at a fixed exchange rate.

In cases where a country has control of its own currency, that control is exercised either by a central bank or by a Ministry of Finance. The institution that has control of monetary policy is referred to as the monetary authority. Monetary authorities have varying degrees of autonomy from the governments that create them. In the United States, the Federal Reserve System operates without direct oversight by the legislative or executive branches. A monetary authority is created and supported by its sponsoring government, so independence can be reduced by the legislative or executive authority that creates it.

Several countries can use the same name for their own separate currencies (for example, *dollar* in Australia, Canada and the United States). By contrast, several

countries can also use the same currency (for example, the euro or the CFA franc), or one country can declare the currency of another country to be legal tender. For example, Panama and El Salvador have declared US currency to be legal tender, and from 1791 to 1857, Spanish silver coins were legal tender in the United States. At various times countries have either re-stamped foreign coins, or used currency board issuing one note of currency for each note of a foreign government held, as Ecuador currently does.

Each currency typically has a main currency unit (the dollar, for example, or the euro) and a fractional unit, often defined as  $\frac{1}{100}$  of the main unit: 100 cents = 1 dollar, 100 centimes = 1 franc, 100 pence = 1 pound, although units of  $\frac{1}{10}$  or  $\frac{1}{1000}$  occasionally also occur. Some currencies do not have any smaller units at all, such as the Icelandic króna.

Mauritania and Madagascar are the only remaining countries that do not use the decimal system; instead, the Mauritanian ouguiya is in theory divided into 5 khoums, while the Malagasy ariary is theoretically divided into 5 iraimbilanja. In these countries, words like *dollar* or *pound* "were simply names for given weights of gold." Due to inflation khoums and iraimbilanja have in practice fallen into disuse.

Convertibility of a currency determines the ability of an individual, corporate or government to convert its local currency to another currency or vice versa with or without central bank/government intervention. Based on the above restrictions or free and readily conversion features, currencies are classified as:

#### Fully convertible

When there are no restrictions or limitations on the amount of currency that can be traded on the international market, and the government does not artificially impose a fixed value or minimum value on the currency in international trade. The US dollar is an example of a fully convertible currency and, for this reason, US dollars are one of the major currencies traded in the foreign exchange market.

#### Partially convertible

Central banks control international investments flowing in and out of the country, while most domestic trade transactions are handled without any special requirements, there are significant restrictions on international investing and special approval is often required in order to convert into other currencies. The Indian rupee and Renminbi are examples of a partially convertible currency.

#### Nonconvertible

Neither participate in the international FOREX market nor allow conversion of these currencies by individuals or companies. As a result, these currencies are known as blocked currencies. e.g.: North Korean won and the Cuban peso.

In economics, a local currency is a currency not backed by a national government, and intended to trade only in a small area. Advocates such as Jane Jacobs argue that this enables an economically depressed region to pull itself up, by giving the people living there a medium of exchange that they can use to exchange services and locally produced goods (in a broader sense, this is the original purpose of all money). Opponents of this concept argue that local currency creates a barrier which can interfere with economies of scale and comparative advantage, and that in some cases they can serve as a means of tax evasion.

Local currencies can also come into being when there is economic turmoil involving the national currency. An example of this is the Argentinian economic crisis of 2002 in which IOUs issued by local governments quickly took on some of the characteristics of local currencies.

One of the best examples of a local currency is the original LETS currency, founded on Vancouver Island in the early 1980s. In 1982, the Canadian Central Bank's lending rates ran up to 14% which drove chartered bank lending rates as high as 19%. The resulting currency and credit scarcity left island residents with few options other than to create a local currency.

# Goods

In economics, goods are materials that satisfy human wants and provide utility, for example, to a consumer making a purchase of a satisfying product. A common distinction is made between goods that are tangible property, and services, which are non-Physical. A good may be a consumable item that is useful to people but scarce in relation to its demand, so that human effort is required to obtain it. In contrast, free goods, such as air, are naturally in abundant supply and need no conscious effort to obtain them. Personal goods are things such as televisions, living room furniture, wallets, cellular telephones, almost anything owned or used on a daily basis that is not food related. Commercial goods are construed as any tangible product that is manufactured and then made available for supply to be used in an industry of commerce. Commercial goods could be tractors, commercial vehicles, mobile structures, airplanes and even roofing materials. Commercial and personal goods as categories are very broad and cover almost everything a person sees from the time they awake in their home, on their commute to work and arrival in the work place.

Commodities may be used as a synonym for economic goods but often refer to marketable raw materials and primary products.

Although in economic theory all goods are considered tangible, in reality certain classes of goods, such as information, only take intangible forms. For example, among other goods an apple is a tangible object, while news belongs to an intangible class of goods and can be perceived only by means of an instrument such as print or television.

Goods may increase or decrease their utility directly or indirectly and may be described as having marginal utility. Some things are useful, but not scarce enough to have monetary value, such as the Earth's atmosphere, these are referred to as 'free goods'.

In economics, a bad is the opposite of a good. Ultimately, whether an object is a good or a bad depends on each individual consumer and therefore, it is important to realize that not all goods are good all the time and not all goods are goods to all people.

Goods' diversity allows for their classification into different categories based on distinctive characteristics, such as tangibility and (ordinal) relative elasticity. A

tangible good like an apple differs from an intangible good like information due to the impossibility of a person to physically hold the latter, whereas the former occupies physical space. Intangible goods differ from services in that final (intangible) goods are transferable and can be traded, whereas a service cannot.

Price elasticity also differentiates types of goods. An elastic good is one for which there is a relatively large change in quantity due to a relatively small change in price, and therefore is likely to be part of a family of substitute goods; for example, as pen prices rise, consumers might buy more pencils instead. An inelastic good is one for which there are few or no substitutes, such as tickets to major sporting events .

original works by famous artists , and prescription medicine such as insulin. Complementary goods are generally more inelastic than goods in a family of substitutes. For example, if a rise in the price of beef results in a decrease in the quantity of beef demanded, it is likely that the quantity of hamburger buns demanded will also drop, despite no change in buns' prices. This is because hamburger buns and beef (in Western culture) are complementary goods. It is important to note that goods considered complements or substitutes are relative associations and should not be understood in a vacuum. The degree to which a good is a substitute or a complement depends on its relationship to other goods, rather than an intrinsic characteristic, and can be measured as cross elasticity of demand by employing statistical techniques such as covariance and correlation.

Goods are capable of being physically delivered to a consumer. Goods that are economic intangibles can only be stored, delivered, and consumed by means of media.

Goods, both tangibles and intangibles, may involve the transfer of product ownership to the consumer. Services do not normally involve transfer of ownership of the service itself, but may involve transfer of ownership of goods developed or marketed by a service provider in the course of the service. For example, sale of storage related goods, which could consist of storage sheds, storage containers, storage buildings as tangibles or storage supplies such as boxes, bubble wrap, tape, bags and the like which are consumables, or distributing electricity among consumers is a service provided by an electric utility company. This service can only be experienced through the consumption of electrical energy, which is available in a variety of voltages and, in this case, is the *economic goods* produced by the electric utility company . While the service (namely, distribution of electrical energy) is a process that remains in its entirety in the ownership of the electric service provider, the goods (namely, electric energy) is the object of ownership transfer. The consumer becomes electric energy owner by purchase and may use it for any lawful purposes just like any other goods.

# Investor

An investor is a person that allocates capital with the expectation of a future financial return. Types of investments include: equity, debt securities, real estate, currency, commodity, token, derivatives such as put and call options, futures, forwards, etc. This definition makes no distinction between those in the primary and secondary markets. That is, someone who provides a business with capital and someone who buys a stock are both investors. An investor who owns a stock is a shareholder.

The assumption of risk in anticipation of gain but recognizing a higher than average possibility of loss. The term "speculation" implies that a business or investment risk can be analyzed and measured, and its distinction from the term "investment" is one of degree of risk. It differs from gambling, which is based on random outcomes.

## Types of investors

There are two types of investors, retail investors and institutional investors:

### Retail investor

- Individuals gambling in games of chance.
- Individual investors (including trusts on behalf of individuals, and umbrella companies formed by two or more to pool investment funds)
- Collectors of art, antiques, and other things of value
- Angel investors (individuals and groups)
- Sweat equity investor

### Institutional investor

- Venture capital and private equity funds, which serve as investment collectives on behalf of individuals, companies, pension plans, insurance reserves, or other funds.
- Businesses that make investments, either directly or via a captive fund
- Investment trusts, including real estate investment trusts

- Mutual funds, hedge funds, and other funds, ownership of which may or may not be publicly traded (these funds typically pool money raised from their owner-subscribers to invest in securities)
- Sovereign wealth funds

Investors might also be classified according to their styles. In this respect, an important distinctive investor psychology trait is risk attitude.

The term "investor protection" defines the entity of efforts and activities to observe, safeguard and enforce the rights and claims of a person in his role as an investor. This includes advice and legal action. The assumption of a need of protection is based on the experience that financial investors are usually structurally inferior to providers of financial services and products due to lack of professional knowledge, information or experience. Countries with stronger investor protections tend to grow faster than those with poor investor protections. Investor protection includes accurate financial reporting by public companies so the investors can make an informed decision. Investor protection also includes fairness of the market which means all participants in the market have access to the same information.

Investor protection through government is regulations and enforcements by government agencies to ensure that market is fair and fraudulent activities are eliminated. An example of a government agency that provides protection to investors is the U.S. Securities and Exchange Commission (SEC), which works to protect reasonable investors in America.

Investor protection through individual is the strategy that one utilizes to minimize loss. Individual investors can protect themselves by purchasing only shares of businesses that they understand, or only those that remain calm through market volatility.

An individual investor may be protected by the strategy he uses in investment. The strategy includes an appropriate price of the stocks or assets in the right time he enters. It's hard to fix what "an appropriate price" is, and when it is appropriate because no one makes a purchase or a sale absolutely in his most favorable situation. However, determination may be made when the price of such share or assets are "undervalued" comparing to its potentiality. This is called the margin of safety where an investor can feel at ease when the price of the stocks is alarmingly down.



While a tax structure may change, it is generally accepted that long-term capital gains will maintain their position of providing an advantage to investors. This is countered by the opinion that after-tax returns should be considered, especially during retirement, on the basis that allocation to equities is in general, lower, than any returns and should be maximized, to the most lucrative extent. In the current circumstances, long-term capital gains offer one of the best opportunities in the United States tax structure.

It is made easier for investors to generate long-term capital gains by the employment of exchange-traded funds (ETFs); the process of investment in broad-based index funds, without required indicators. Although some outlandish ETFs could provide investors with the opportunity to venture into previously inaccessible markets and employ different strategies, the unpredictable nature of these holdings frequently result in short-term transactions, surprising tax equations and general performance results issues.

Company dividends are paid from after-tax profits, with the tax already deducted. Therefore, shareholders are given some respite with a preferential tax rate of 15% on "qualified dividends" in the event of the company being domiciled in the United States. Alternatively, in another country having a double-taxation treaty with the USA, accepted by the IRS;. Non-qualified dividends paid by other foreign companies or entities; for example, those receiving income derived from interest on bonds held by a mutual fund, are taxed at the regular and generally higher rate of income tax. When applied to 2013, this is on a sliding scale up to 39.6%, with an additional 3.8% surtax for high-income taxpayers (\$200,000 for singles, \$250,000 for married couples).

A disciplined and structured investment plan prevents emotional investing which can be related to impulsive buying. This factor can be utilized to counteract the sentiments of a marketplace, which is often reflective of the emotional state of an entire population. Short-term activity in stock prices or the broader markets can frequently be compared to impulsive actions. This is seen in the term "bull run" which can induce investors to leap into an investment, as opposed to a "bearish market" that could influence a "sell-off". It is these types of market scenarios that can cause investors to abandon their investment strategies. Investor discipline is the ability to maintain an investment strategy even in the most tempting, or extreme conditions in the marketplace.

An established and popular method for stock market investors is Systematic Investment Plans (SIPs) especially for those who have a regular, monthly surplus

income. The provision for reaping maximum benefits from these plans is that a disciplined strategy is maintained, one of the foremost advantages for a successful investor. Consistency is closely associated with an investment strategy and can be related to various, adopted, proven techniques; for example, predicting outperforming funds, valuation, or a technical strategy. A strategic advantage that meets the required consistency is long-term investment, which in turn, offers investors long-term capital gains tax advantages. While many investors try to exercise a long-term disciplined approach, the investment marketplace can provide various, tempting options; for instance, a sudden drop in the marketplace, or a pending worldwide event. This is particularly prevalent for retired investors, who are preserving their capital with care.

In general, core indexes remain constant making it unnecessary for investors to move from one to another. Although an investor could transfer holdings; despite a maturation of the companies and their markets; a large-cap exchange-traded fund would never require being switched for a similar holding. A large-cap ETF will always remain so and an investor will usually want to retain at least a part allocation to large-cap equities in their portfolio.

It is consistency that is a significant advantage for ETF investors and one that makes it convenient to retain investment positions and benefit from long-term capital gains tax. Despite a potential reduction in the capital gains tax advantage, it is an advantage that should continue to provide some positive benefits in producing after-tax returns. This is a factor that could become an important issue in the future as taxes increase, affecting the lifestyles of retirees. It can be added to by additional taxes generated in short-term trading, exacerbating the situation, due to normal income-tax rates increases.

"financier" redirects here. For other uses, see financier (disambiguation).

A financier is a person whose primary occupation is either facilitating or directly providing investments to up-and-coming or established companies and businesses, typically involving large sums of money and usually involving private equity and venture capital, mergers and acquisitions, leveraged buyouts, corporate finance, investment banking, or large-scale asset management. A financier makes money through this process when his or her investment is paid back with interest, from part of the company's equity awarded to them as specified by the business deal, or a financier can generate income through commission, performance, and management fees. A financier can also promote the success of a financed business by allowing the business to take advantage of the financier's reputation. The more experienced and capable the financier is, the more the financier will be able to contribute to the success of the financed entity, and the greater reward the financier will reap. The term, financier, is French, and derives from *finance* or *payment*.

Financier is a term used to describe someone who handles money. Certain financier avenues require degrees and licenses including venture capitalists, hedge fund managers, trust fund managers, accountants, stockbrokers, financial advisors, or even public treasurers. Personal investing on the other hand, has no requirements and is open to all by means of the stock market or by word of mouth requests for money. A financier "will be a specialized financial intermediary in the sense that it has experience in liquidating the type of firm it is lending to".

Economist Edmund Phelps has argued that the financier plays a role in directing capital to investments that governments and social organizations are constrained from playing:

The pluralism of experience that the financiers bring to bear in their decisions gives a wide range of entrepreneurial ideas a chance of insightful evaluation. And, importantly, the financier and the entrepreneur do not need the approval of the state or of social partners. Nor are they accountable later on to such social bodies if the project goes badly, not even to the financier's investors. So projects can be undertaken that would be too opaque and uncertain for the state or social partners to endorse.

The concept of the financier has been distinguished from that of a mere capitalist based on the asserted higher level of judgment required of the financier. However, financiers have also been mocked for their perceived tendency to generate wealth at the expense of others, and without engaging in tangible labor. For example, humorist George Helgesen Fitch described the financier as "a man who can make two dollars grow for himself where one grew for some one else before".

# Rent-seeking

In economics and in public-choice theory, rent-seeking involves seeking to increase one's share of existing wealth without creating new wealth. Rent-seeking results in reduced economic efficiency through poor allocation of resources, reduced actual wealth-creation, lost government revenue, increased income inequality, and (potentially) national decline.

Attempts at capture of regulatory agencies to gain a coercive monopoly can result in advantages for the rent seeker in a market while imposing disadvantages on (incorrupt) competitors. This constitutes one of many possible forms of rent-seeking behavior.

The idea of rent-seeking was developed by Gordon Tullock in 1967 , while the expression *rent-seeking* itself was coined in 1974 by Anne Krueger. The word "rent" does not refer specifically to payment on a lease but rather to Adam Smith's division of incomes into profit, wage, and rent. The origin of the term refers to gaining control of land or other natural resources.

Georgist economic theory describes rent-seeking in terms of land rent, where the value of land largely comes from government infrastructure and services (e.g. roads, public schools, maintenance of peace and order, etc.) and the community in general, rather than from the actions of any given landowner, in their role as mere titleholder. This role must be separated from the role of a property developer, which need not be the same person.

Rent-seeking is an attempt to obtain economic rent (i.e., the portion of income paid to a factor of production in excess of what is needed to keep it employed in its current use) by manipulating the social or political environment in which economic activities occur, rather than by creating new wealth. Rent-seeking implies extraction of uncompensated value from others without making any contribution to productivity. The classic example of rent-seeking, according to Robert Shiller, is that of a feudal lord who installs a chain across a river that flows through his land and then hires a collector to charge passing boats a fee (or rent of the section of the river for a few minutes) to lower the chain. There is nothing productive about the chain or the collector. The lord has made no improvements to the river and is not adding value in any way, directly or indirectly, except for himself. All he is doing is finding a way to make money from something that used to be free.

In many market-driven economies, much of the competition for rents is legal, regardless of harm it may do to an economy. However, some rent-seeking competition is illegal – such as bribery or corruption.

Rent-seeking is distinguished in theory from profit-seeking, in which entities seek to extract value by engaging in mutually beneficial transactions. Profit-seeking in this sense is the creation of wealth, while rent-seeking is "profiteering" by using social institutions, such as the power of the state, to redistribute wealth among different groups without creating new wealth. In a practical context, income obtained through rent-seeking may contribute to profits in the standard, accounting sense of the word.

Tullock paradox refers to the apparent paradox, described by Tullock, on the low costs of rent-seeking relative to the gains from rent-seeking.

The paradox is that rent-seekers wanting political favors can bribe politicians at a cost much lower than the value of the favor to the rent-seeker. For instance, a rent seeker who hopes to gain a billion dollars from a particular political policy may need to bribe politicians only to the tune of ten million dollars, which is about 1% of the gain to the rent-seeker. Luigi Zingales frames it by asking, "Why is there so little money in politics?" because a naive model of political bribery and/or campaign spending should result in beneficiaries of government subsidies being willing to spend an amount up to the value of the subsidies themselves, when in fact only a small fraction of that is spent.

### Possible explanations

Several possible explanations have been offered for the Tullock paradox:

1. Voters may punish politicians who take large bribes, or live lavish lifestyles. This makes it hard for politicians to demand large bribes from rent-seekers.
2. Competition between different politicians eager to offer favors to rent-seekers may bid down the cost of rent-seeking.
3. Lack of trust between the rent-seekers and the politicians, due to the inherently underhanded nature of the deal and the unavailability of both legal recourse and reputational incentives to enforce compliance, pushes down the price that politicians can demand for favors.

An example of rent-seeking in a modern economy is spending money on lobbying for government subsidies in order to be given wealth that has already been created, or to impose regulations on competitors, in order to increase market share. Another

example of rent-seeking is the limiting of access to lucrative occupations, as by medieval guilds or modern state certifications and licensures. Taxi licensing is a textbook example of rent-seeking. To the extent that the issuing of licenses constrains overall supply of taxi services (rather than ensuring competence or quality), forbidding competition by livery vehicles, unregulated taxis and/or illegal taxis renders the (otherwise consensual) transaction of taxi service a forced transfer of part of the fee, from customers to taxi business proprietors.

The concept of rent-seeking would also apply to corruption of bureaucrats who solicit and extract "bribe" or "rent" for applying their legal but discretionary authority for awarding legitimate or illegitimate benefits to clients. For example, tax officials may take bribes for lessening the tax burden of the taxpayers.

Regulatory capture is a related term for the collusion between firms and the government agencies assigned to regulate them, which is seen as enabling extensive rent-seeking behavior, especially when the government agency must rely on the firms for knowledge about the market. Studies of rent-seeking focus on efforts to capture special monopoly privileges such as manipulating government regulation of free enterprise competition. The term *monopoly privilege rent-seeking* is an often-used label for this particular type of rent-seeking. Often-cited examples include a lobby that seeks economic regulations such as tariff protection, quotas, subsidies, or extension of copyright law. Anne Krueger concludes that, "empirical evidence suggests that the value of rents associated with import licenses can be relatively large, and it has been shown that the welfare cost of quantitative restrictions equals that of their tariff equivalents plus the value of the rents."

Economists such as the chair of British financial regulator the Financial Services Authority Lord Adair Turner have argued that innovation in the financial industry is often a form of rent-seeking.

The phenomenon of rent-seeking in connection with monopolies was first formally identified in 1967 by Gordon Tullock.

Recent studies have shown that the incentives for policy-makers to engage in rent-provision is conditional on the institutional incentives they face, with elected officials in stable high-income democracies the least likely to indulge in such activities vis-à-vis entrenched bureaucrats and/or their counterparts in young and quasi-democracies.

Critics of the concept point out that, in practice, there may be difficulties distinguishing between beneficial profit-seeking and detrimental rent-seeking.

Often a further distinction is drawn between rents obtained legally through political power and the proceeds of private common-law crimes such as fraud, embezzlement and theft. This viewpoint sees "profit" as obtained consensually, through a mutually agreeable transaction between two entities (buyer and seller), and the proceeds of common-law crime non-consensually, by force or fraud inflicted on one party by another. Rent, by contrast with these two, is obtained when a third party deprives one party of access to otherwise accessible transaction opportunities, making nominally "consensual" transactions a rent-collection opportunity for the third party. The high profits of the illegal drug trade are considered rents by this definition, as they are neither legal profits nor the proceeds of common-law crimes.

People accused of rent-seeking typically argue that they are indeed creating new wealth (or preventing the reduction of old wealth) by improving quality controls, guaranteeing that charlatans do not prey on a gullible public, and preventing bubbles.

From a theoretical standpoint, the moral hazard of rent-seeking can be considerable. If "buying" a favorable regulatory environment seems cheaper than building more efficient production, a firm may choose the former option, reaping incomes entirely unrelated to any contribution to total wealth or well-being. This results in a sub-optimal allocation of resources – money spent on lobbyists and counter-lobbyists rather than on research and development, on improved business practices, on employee training, or on additional capital goods – which retards economic growth. Claims that a firm is rent-seeking therefore often accompany allegations of government corruption, or the undue influence of special interests.

Rent-seeking can prove costly to economic growth; high rent-seeking activity makes more rent-seeking attractive because of the natural and growing returns that one sees as a result of rent-seeking. Thus organizations value rent-seeking over productivity. In this case there are very high levels of rent-seeking with very low levels of output. Rent-seeking may grow at the cost of economic growth because rent-seeking by the state can easily hurt innovation. Ultimately, public rent-seeking hurts the economy the most because innovation drives economic growth.

Government agents may initiate rent-seeking – such agents soliciting bribes or other favors from the individuals or firms that stand to gain from having special economic privileges, which opens up the possibility of exploitation of the consumer. It has been shown that rent-seeking by bureaucracy can push up the cost of production of public goods. It has also been shown that rent-seeking by tax officials may cause loss in revenue to the public exchequer.

Mancur Olson traced the historic consequences of rent seeking in *The Rise and Decline of Nations*. As a country becomes increasingly dominated by organized interest groups, it loses economic vitality and falls into decline. Olson argued that countries that have a collapse of the political regime and the interest groups that have coalesced around it can radically improve productivity and increase national income because they start with a clean slate in the aftermath of the collapse. An example of this is Japan after World War Two. But new coalitions form over time, once again shackling society in order to redistribute wealth and income to themselves. However, social and technological changes have allowed new enterprises and groups to emerge in the past.

A study by Laband and John Sophocleus in 1988 estimated that rent-seeking had decreased total income in the USA by 45 percent. Both Dougan and Tullock affirm the difficulty of finding the cost of rent-seeking. Rent-seekers of government-provided benefits will in turn spend up to that amount of benefit in order to gain those benefits, in the absence of, for example, the collective-action constraints highlighted by Olson. Similarly, taxpayers lobby for loopholes and will spend the value of those loopholes, again, to obtain those loopholes (again absent collective-action constraints). The total of wastes from rent-seeking is then the total amount from the government-provided benefits and instances of tax avoidance (valuing benefits and avoided taxes at zero). Dougan says that the "total rent-seeking costs equal the sum of aggregate current income plus the net deficit of the public sector."

Mark Gradstein writes about rent-seeking in relation to public goods provision, and says that public goods are determined by rent seeking or lobbying activities. But the question is whether private provision with free-riding incentives or public provision with rent-seeking incentives is more inefficient in its allocation.

The economist Joseph Stiglitz has argued that rent-seeking contributes significantly to income inequality in the United States through lobbying for government policies that let the wealthy and powerful get income, not as a reward for creating wealth, but by grabbing a larger share of the wealth that would otherwise have been produced without their effort. Piketty, Saez, and Stantcheva have analyzed international economies and their changes in tax rates to conclude that much of income inequality is a result of rent-seeking among wealthy tax payers.



# Tax

A tax is a mandatory financial charge or some other type of levy imposed upon a taxpayer by a governmental organization in order to fund various public expenditures .A failure to pay, or evasion of or resistance to taxation, is punishable by law. Taxes consist of direct or indirect taxes and may be paid in money or as its labour equivalent. Most countries have a tax system in place to pay for public/common/agreed national needs and government functions: some levy a flat percentage rate of taxation on personal annual income, some on a scale based on annual income amounts, and some countries impose almost no taxation at all, or a very low tax rate for a certain area of taxation. Some countries charge a tax both on corporate income and dividends; this is often referred to as double taxation as the individual shareholder(s) receiving this payment from the company will also be levied some tax on that personal income.

The legal definition and the economical definition of taxes differ in that economists do not regard many transfers to governments as taxes. For example, some transfers to the public sector are comparable to prices. Examples include tuition at public universities and fees for utilities provided by local governments. Governments also obtain resources by "creating" money and coins (for example, by printing bills and by minting coins), through voluntary gifts (for example, contributions to public universities and museums), by imposing penalties (such as traffic fines), by borrowing, and by confiscating wealth. From the view of economists, a tax is a non-penal, yet compulsory transfer of resources from the private to the public sector levied on a basis of predetermined criteria and without reference to specific benefit received.

In modern taxation systems, governments levy taxes in money; but in-kind and *corvee* taxation are characteristic of traditional or pre-capitalist states and their functional equivalents. The method of taxation and the government expenditure of taxes raised is often highly debated in politics and economics. Tax collection is performed by a government agency such as the Canada Revenue Agency, the Internal Revenue Service (IRS) in the United States, Her Majesty's Revenue and Customs (HMRC) in the United Kingdom or Federal Tax Service in Russia. When taxes are not fully paid, the state may impose civil penalties (such as fines or forfeiture) or criminal penalties (such as incarceration) on the non-paying entity or individual.

The levying of taxes aims to raise revenue to fund governing and/or to alter prices in order to affect demand. States and their functional equivalents throughout history have

used money provided by taxation to carry out many functions. Some of these include expenditures on economic infrastructure (roads, public transportation, sanitation, legal systems, public safety, education, health-care systems), military, scientific research, culture and the arts, public works, distribution, data collection and dissemination, public insurance, and the operation of government itself. A government's ability to raise taxes is called its fiscal capacity.

When expenditures exceed tax revenue, a government accumulates debt. A portion of taxes may be used to service past debts. Governments also use taxes to fund welfare and public services. These services can include education systems, pensions for the elderly, unemployment benefits, and public transportation. Energy, water and waste management systems are also common public utilities.

According to the proponents of the chartalist theory of money creation, taxes are not needed for government revenue, as long as the government in question is able to issue fiat money. According to this view, the purpose of taxation is to maintain the stability of the currency, express public policy regarding the distribution of wealth, subsidizing certain industries or population groups or isolating the costs of certain benefits, such as highways or social security.

A tax effectively changes relative prices of products. Therefore, most economists, especially neoclassical economists, argue that taxation creates market distortion and results in economic inefficiency unless there are (positive or negative) externalities associated with the activities that are taxed that need to be internalized to reach an efficient market outcome. They have therefore sought to identify the kind of tax system that would minimize this distortion. Recent scholarship suggests that in the United States of America, the federal government effectively taxes investments in higher education more heavily than it subsidizes higher education, thereby contributing to a shortage of skilled workers and unusually high differences in pre-tax earnings between highly educated and less-educated workers.

Governments use different kinds of taxes and vary the tax rates. They do this in order to distribute the tax burden among individuals or classes of the population involved in taxable activities, such as the business sector, or to redistribute resources between individuals or classes in the population. Historically, taxes on the poor supported the nobility; modern social-security systems aim to support the poor, the disabled, or the retired by taxes on those who are still working. In addition, taxes are applied to fund foreign aid and military ventures, to influence the macroeconomic performance of the economy (a government's strategy for doing this is called its fiscal policy), or to modify patterns of consumption or employment within an economy, by making some classes of transaction more or less attractive.

A state's tax system often reflects its communal values and the values of those in current political power. To create a system of taxation, a state must make choices regarding the distribution of the tax burden—who will pay taxes and how much they will pay—and how the taxes collected will be spent. In democratic nations where the public elects those in charge of establishing or administering the tax system, these choices reflect the type of community that the public wishes to create. In countries where the public does not have a significant amount of influence over the system of taxation, that system may reflect more closely the values of those in power.

All large businesses incur administrative costs in the process of delivering revenue collected from customers to the suppliers of the goods or services being purchased. Taxation is no different; the resource collected from the public through taxation is always greater than the amount which can be used by the government. The difference is called the compliance cost and includes (for example) the labour cost and other expenses incurred in complying with tax laws and rules. The collection of a tax in order to spend it on a specified purpose, for example collecting a tax on alcohol to pay directly for alcoholism-rehabilitation centres, is called hypothecation. Finance ministers often dislike this practice, since it reduces their freedom of action. Some economic theorists regard hypothecation as intellectually dishonest since, in reality, money is fungible. Furthermore, it often happens that taxes or excises initially levied to fund some specific government programs are then later diverted to the government general fund. In some cases, such taxes are collected in fundamentally inefficient ways, for example, through highway tolls.

Since governments also resolve commercial disputes, especially in countries with common law, similar arguments are sometimes used to justify a sales tax or value added tax. Some (libertarians, for example) portray most or all forms of taxes as immoral due to their involuntary (and therefore eventually coercive/violent) nature. The most extreme anti-tax view, anarcho-capitalism, holds that all social services should be voluntarily bought by the person(s) using them.

The Organisation for Economic Co-operation and Development (OECD) publishes an analysis of tax systems of member countries. As part of such analysis, OECD developed a definition and system of classification of internal taxes, generally followed below. In addition, many countries impose taxes (tariffs) on the import of goods.

# Income tax

Many jurisdictions tax the income of individuals and business entities, including corporations. Generally, the tax is imposed on net profits from business, net gains, and other income. Computation of income subject to tax may be determined under accounting principles used in the jurisdiction, which may be modified or replaced by tax law principles in the jurisdiction. The incidence of taxation varies by system, and some systems may be viewed as progressive or regressive. Rates of tax may vary or be constant (flat) by income level. Many systems allow individuals certain personal allowances and other nonbusiness reductions to taxable income, although business deductions tend to be favored over personal deductions.

Personal income tax is often collected on a pay-as-you-earn basis, with small corrections made soon after the end of the tax year. These corrections take one of two forms: payments to the government, for taxpayers who have not paid enough during the tax year; and tax refunds from the government for those who have overpaid. Income tax systems will often have deductions available that lessen the total tax liability by reducing total taxable income. They may allow losses from one type of income to be counted against another. For example, a loss on the stock market may be deducted against taxes paid on wages. Other tax systems may isolate the loss, such that business losses can only be deducted against business tax by carrying forward the loss to later tax years.

## Negative income

In economics, a negative income tax (abbreviated NIT) is a progressive income tax system where people earning below a certain amount receive supplemental pay from the government instead of paying taxes to the government.

## Capital gains

Most jurisdictions imposing an income tax treat capital gains as part of income subject to tax. Capital gain is generally a gain on sale of capital assets—that is, those assets not held for sale in the ordinary course of business. Capital assets include personal assets in many jurisdictions. Some jurisdictions provide preferential rates of tax or only partial taxation for capital gains. Some jurisdictions impose different rates or levels of capital gains taxation based on the length of time the asset was held. Because tax rates are often much lower for capital gains than for ordinary income, there is widespread controversy and dispute about the proper definition of capital. Some tax

scholars have argued that differences in the ways different kinds of capital and investment are taxed contribute to economic distortions.

## **Corporate**

Corporate tax refers to income, capital, net worth, or other taxes imposed on corporations. Rates of tax and the taxable base for corporations may differ from those for individuals or other taxable persons.

## **Social security contributions**

Many countries provide publicly funded retirement or health care systems. In connection with these systems, the country typically requires employers and/or employees to make compulsory payments. These payments are often computed by reference to wages or earnings from self-employment. Tax rates are generally fixed, but a different rate may be imposed on employers than on employees. Some systems provide an upper limit on earnings subject to the tax. A few systems provide that the tax is payable only on wages above a particular amount. Such upper or lower limits may apply for retirement but not health care components of the tax. Some have argued that such taxes on wages are a form of "forced savings" and not really a tax, while others point to redistribution through such systems between generations (from newer cohorts to older cohorts) and across income levels (from higher income levels to lower income levels) which suggest that such programs are really tax and spending programs. Some tax scholars argue that supporting social security programs exclusively through taxes on wages, rather than through broader taxes that include capital, creates distortions and underinvestment in human capital, since the returns to such investments will be taxed as wages.

## **workforce**

Unemployment and similar taxes are often imposed on employers based on total payroll. These taxes may be imposed in both the country and sub-country levels. Recurrent property taxes may be imposed on immovable property (real property) and some classes of movable property. In addition, recurrent taxes may be imposed on net wealth of individuals or corporations. Many jurisdictions impose estate tax, gift tax or other inheritance taxes on property at death or gift transfer. Some jurisdictions impose taxes on financial or capital transactions.

# Property taxes

## Property

A property tax (or millage tax) is an *ad valorem* tax levy on the value of property that the owner of the property is required to pay to a government in which the property is situated. Multiple jurisdictions may tax the same property. There are three general varieties of property: land, improvements to land (immovable man-made things, e.g. buildings) and personal property (movable things). Real estate or realty is the combination of land and improvements to land.

Property taxes are usually charged on a recurrent basis (e.g., yearly). A common type of property tax is an annual charge on the ownership of real estate, where the tax base is the estimated value of the property. For a period of over 150 years from 1695 a window tax was levied in England, with the result that one can still see listed buildings with windows bricked up in order to save their owners money. A similar tax on hearths existed in France and elsewhere, with similar results. The two most common type of event driven property taxes are stamp duty, charged upon change of ownership, and inheritance tax, which is imposed in many countries on the estates of the deceased.

In contrast with a tax on real estate (land and buildings), a land value tax (or LVT) is levied only on the unimproved value of the land ("land" in this instance may mean either the economic term, i.e., all natural resources, or the natural resources associated with specific areas of the Earth's surface: "lots" or "land parcels"). Proponents of land value tax argue that it is economically justified, as it will not deter production, distort market mechanisms or otherwise create deadweight losses the way other taxes do.

When real estate is held by a higher government unit or some other entity not subject to taxation by the local government, the taxing authority may receive a payment in lieu of taxes to compensate it for some or all of the foregone tax revenues.

In many jurisdictions (including many American states), there is a general tax levied periodically on residents who own personal property (personalty) within the jurisdiction. Vehicle and boat registration fees are subsets of this kind of tax. The tax is often designed with blanket coverage and large exceptions for things like food and clothing. Household goods are often exempt when kept or used within the household. Any otherwise non-exempt object can lose its exemption if regularly kept

outside the household. Thus, tax collectors often monitor newspaper articles for stories about wealthy people who have lent art to museums for public display, because the artworks have then become subject to personal property tax. If an artwork had to be sent to another state for some touch-ups, it may have become subject to personal property tax in *that* state as well.

### Inheritance

Inheritance tax, estate tax, and death tax or duty are the names given to various taxes which arise on the death of an individual. In United States tax law, there is a distinction between an estate tax and an inheritance tax: the former taxes the personal representatives of the deceased, while the latter taxes the beneficiaries of the estate. However, this distinction does not apply in other jurisdictions; for example, if using this terminology UK inheritance tax would be an estate tax.

### Expatriation

An expatriation tax is a tax on individuals who renounce their citizenship or residence. The tax is often imposed based on a deemed disposition of all the individual's property. One example is the United States under the *American Jobs Creation Act*, where any individual who has a net worth of \$2 million or an average income-tax liability of \$127,000 who renounces his or her citizenship and leaves the country is automatically assumed to have done so for tax avoidance reasons and is subject to a higher tax rate.

### Transfer

Historically, in many countries, a contract needs to have a stamp affixed to make it valid. The charge for the stamp is either a fixed amount or a percentage of the value of the transaction. In most countries, the stamp has been abolished but stamp duty remains. Stamp duty is levied in the UK on the purchase of shares and securities, the issue of bearer instruments, and certain partnership transactions. Its modern derivatives, stamp duty reserve tax and stamp duty land tax, are respectively charged on transactions involving securities and land. Stamp duty has the effect of discouraging speculative purchases of assets by decreasing liquidity. In the United States, transfer tax is often charged by the state or local government and (in the case of real property transfers) can be tied to the recording of the deed or other transfer documents.

net worth

Some countries' governments will require declaration of the tax payers' balance sheet (assets and liabilities), and from that exact a tax on net worth (assets minus liabilities), as a percentage of the net worth, or a percentage of the net worth exceeding a certain level. The tax may be levied on "natural" or legal "persons".



## Value added tax

A value added tax (VAT), also known as Goods and Services Tax (G.S.T), Single Business Tax, or Turnover Tax in some countries, applies the equivalent of a sales tax to every operation that creates value. To give an example, sheet steel is imported by a machine manufacturer. That manufacturer will pay the VAT on the purchase price, remitting that amount to the government. The manufacturer will then transform the steel into a machine, selling the machine for a higher price to a wholesale distributor. The manufacturer will collect the VAT on the higher price, but will remit to the government only the excess related to the "value added" (the price over the cost of the sheet steel). The wholesale distributor will then continue the process, charging the retail distributor the VAT on the entire price to the retailer, but remitting only the amount related to the distribution mark-up to the government. The last VAT amount is paid by the eventual retail customer who cannot recover any of the previously paid VAT. For a VAT and sales tax of identical rates, the total tax paid is the same, but it is paid at differing points in the process.

VAT is usually administrated by requiring the company to complete a VAT return, giving details of VAT it has been charged (referred to as input tax) and VAT it has charged to others (referred to as output tax). The difference between output tax and input tax is payable to the Local Tax Authority.

Many tax authorities have introduced automated VAT which has increased accountability and auditability, by utilizing computer-systems, thereby also enabling anti-cybercrime offices as well.

### Sales

Sales taxes are levied when a commodity is sold to its final consumer. Retail organizations contend that such taxes discourage retail sales. The question of whether they are generally progressive or regressive is a subject of much current debate. People with higher incomes spend a lower proportion of them, so a flat-rate sales tax will tend to be regressive. It is therefore common to exempt food, utilities and other necessities from sales taxes, since poor people spend a higher proportion of their incomes on these commodities, so such exemptions make the tax more progressive. This is the classic "You pay for what you spend" tax, as only those who spend money on non-exempt (i.e. luxury) items pay the tax.

A small number of U.S. states rely entirely on sales taxes for state revenue, as those states do not levy a state income tax. Such states tend to have a moderate to large

amount of tourism or inter-state travel that occurs within their borders, allowing the state to benefit from taxes from people the state would otherwise not tax. In this way, the state is able to reduce the tax burden on its citizens. The U.S. states that do not levy a state income tax are Alaska, Tennessee, Florida, Nevada, South Dakota, Texas, Washington state, and Wyoming. Additionally, New Hampshire and Tennessee levy state income taxes only on dividends and interest income. Of the above states, only Alaska and New Hampshire do not levy a state sales tax. Additional information can be obtained at the Federation of Tax Administrators website.

In the United States, there is a growing movement for the replacement of all federal payroll and income taxes (both corporate and personal) with a national retail sales tax and monthly tax rebate to households of citizens and legal resident aliens. The tax proposal is named FairTax. In Canada, the federal sales tax is called the Goods and Services tax (GST) and now stands at 5%. The provinces of British Columbia, Saskatchewan, Manitoba, and Prince Edward Island also have a provincial sales tax [PST]. The provinces of Nova Scotia, New Brunswick, Newfoundland & Labrador, and Ontario have harmonized their provincial sales taxes with the GST—Harmonized Sales Tax [HST], and thus is a full VAT. The province of Quebec collects the Quebec Sales Tax [QST] which is based on the GST with certain differences. Most businesses can claim back the GST, HST and QST they pay, and so effectively it is the final consumer who pays the tax.

### *Excises*

An excise duty is an indirect tax imposed upon goods during the process of their manufacture, production or distribution, and is usually proportionate to their quantity or value. Excise duties were first introduced into England in the year 1643, as part of a scheme of revenue and taxation devised by parliamentarian John Pym and approved by the Long Parliament. These duties consisted of charges on beer, ale, cider, cherry wine and tobacco, to which list were afterwards added paper, soap, candles, malt, hops, and sweets. The basic principle of excise duties was that they were taxes on the production, manufacture or distribution of articles which could not be taxed through the customs house, and revenue derived from that source is called excise revenue proper. The fundamental conception of the term is that of a tax on articles produced or manufactured in a country. In the taxation of such articles of luxury as spirits, beer, tobacco, and cigars, it has been the practice to place a certain duty on the importation of these articles (a customs duty).

Excises (or exemptions from them) are also used to modify consumption patterns of a certain area (social engineering). For example, a high excise is used to discourage alcohol consumption, relative to other goods. This may be combined

with hypothecation if the proceeds are then used to pay for the costs of treating illness caused by alcohol abuse. Similar taxes may exist on tobacco, pornography, etc., and they may be collectively referred to as "sin taxes". A carbon tax is a tax on the consumption of carbon-based non-renewable fuels, such as petrol, diesel-fuel, jet fuels, and natural gas. The object is to reduce the release of carbon into the atmosphere. In the United Kingdom, vehicle excise duty is an annual tax on vehicle ownership.

### **Tariff**

An import or export tariff (also called customs duty or impost) is a charge for the movement of goods through a political border. Tariffs discourage trade, and they may be used by governments to protect domestic industries. A proportion of tariff revenues is often hypothecated to pay government to maintain a navy or border police. The classic ways of cheating a tariff are smuggling or declaring a false value of goods. Tax, tariff and trade rules in modern times are usually set together because of their common impact on industrial policy, investment policy, and agricultural policy. A trade bloc is a group of allied countries agreeing to minimize or eliminate tariffs against trade with each other, and possibly to impose protective tariffs on imports from outside the bloc. A customs union has a common external tariff, and the participating countries share the revenues from tariffs on goods entering the customs union.

In some societies, tariffs also could be imposed by local authorities on the movement of goods between regions (or via specific internal gateways). A notable example is the *likin*, which became an important revenue source for local governments in the late Qing China.

### **License fees**

Occupational taxes or license fees may be imposed on businesses or individuals engaged in certain businesses. Many jurisdictions impose a tax on vehicles.

### **Poll tax**

A poll tax, also called a *per capita tax*, or *capitation tax*, is a tax that levies a set amount per individual. It is an example of the concept of fixed tax. One of the earliest taxes mentioned in the Bible of a half-shekel per annum from each adult Jew (Ex. 30:11–16) was a form of poll tax. Poll taxes are administratively cheap because they are easy to compute and collect and difficult to cheat. Economists have considered

poll taxes economically efficient because people are presumed to be in fixed supply and poll taxes therefore do not lead to economic distortions. However, poll taxes are very unpopular because poorer people pay a higher proportion of their income than richer people. In addition, the supply of people is in fact not fixed over time: on average, couples will choose to have fewer children if a poll tax is imposed. The introduction of a poll tax in medieval England was the primary cause of the 1381 Peasants' Revolt. Scotland was the first to be used to test the new poll tax in 1989 with England and Wales in 1990. The change from a progressive local taxation based on property values to a single-rate form of taxation regardless of ability to pay (the Community Charge, but more popularly referred to as the Poll Tax), led to widespread refusal to pay and to incidents of civil unrest, known colloquially as the 'Poll Tax Riots'.

Some types of taxes have been proposed but not actually adopted in any major jurisdiction. These include:

- Bank tax
- Financial transaction taxes including currency transaction taxes

### **Descriptive labels**

#### **Ad valorem and per unit**

An *ad valorem* tax is one where the tax base is the value of a good, service, or property. Sales taxes, tariffs, property taxes, inheritance taxes, and value added taxes are different types of *ad valorem* tax. An *ad valorem* tax is typically imposed at the time of a transaction (sales tax or value added tax (VAT)) but it may be imposed on an annual basis (property tax) or in connection with another significant event (inheritance tax or tariffs).

In contrast to ad valorem taxation is a *per unit* tax, where the tax base is the quantity of something, regardless of its price. An excise tax is an example.

## Consumption

Consumption tax refers to any tax on non-investment spending, and can be implemented by means of a sales tax, consumer value added tax, or by modifying an income tax to allow for unlimited deductions for investment or savings.

## Environmental

This includes natural resources consumption tax, greenhouse gas tax (Carbon tax), "sulfuric tax", and others. The stated purpose is to reduce the environmental impact by repricing. Economists describe environmental impacts as negative externalities. As early as 1920, Arthur Pigou suggested a tax to deal with externalities. The proper implementation of environmental taxes has been the subject of a long lasting debate.

## **Proportional, progressive, regressive, and lump-sum**

An important feature of tax systems is the percentage of the tax burden as it relates to income or consumption. The terms progressive, regressive, and proportional are used to describe the way the rate progresses from low to high, from high to low, or proportionally. The terms describe a distribution effect, which can be applied to any type of tax system (income or consumption) that meets the definition.

- A progressive tax is a tax imposed so that the effective tax rate increases as the amount to which the rate is applied increases.
- The opposite of a progressive tax is a regressive tax, where the effective tax rate decreases as the amount to which the rate is applied increases. This effect is commonly produced where means testing is used to withdraw tax allowances or state benefits.
- In between is a proportional tax, where the effective tax rate is fixed, while the amount to which the rate is applied increases.
- A lump-sum tax is a tax that is a fixed amount, no matter the change in circumstance of the taxed entity. This in actuality is a regressive tax as those with lower income must use higher percentage of their income than those with higher income and therefore the effect of the tax reduces as a function of income.

The terms can also be used to apply meaning to the taxation of select consumption, such as a tax on luxury goods and the exemption of basic necessities may be described

as having progressive effects as it increases a tax burden on high end consumption and decreases a tax burden on low end consumption.

### Direct and indirect

Taxes are sometimes referred to as "direct taxes" or "indirect taxes". The meaning of these terms can vary in different contexts, which can sometimes lead to confusion. An economic definition, by Atkinson, states that "...direct taxes may be adjusted to the individual characteristics of the taxpayer, whereas indirect taxes are levied on transactions irrespective of the circumstances of buyer or seller." According to this definition, for example, income tax is "direct", and sales tax is "indirect". In law, the terms may have different meanings. In U.S. constitutional law, for instance, direct taxes refer to poll taxes and property taxes, which are based on simple existence or ownership. Indirect taxes are imposed on events, rights, privileges, and activities. Thus, a tax on the sale of property would be considered an indirect tax, whereas the tax on simply owning the property itself would be a direct tax.

### Fees and effective

Governments may charge user fees, tolls, or other types of assessments in exchange of particular goods, services, or use of property. These are generally not considered taxes, as long as they are levied as payment for a direct benefit to the individual paying. Such fees include:

- Tolls: a fee charged to travel via a road, bridge, tunnel, canal, waterway or other transportation facilities. Historically tolls have been used to pay for public bridge, road and tunnel projects. They have also been used in privately constructed transport links. The toll is likely to be a fixed charge, possibly graduated for vehicle type, or for distance on long routes.
- User fees, such as those charged for use of parks or other government owned facilities.
- Ruling fees charged by governmental agencies to make determinations in particular situations.

Some scholars refer to certain economic effects as taxes, though they are not levies imposed by governments. These include:

- Inflation tax: the economic disadvantage suffered by holders of cash and cash equivalents in one denomination of currency due to the effects of expansionary monetary policy
- Financial repression: Government policies such as interest rate caps on government debt, financial regulations such as reserve requirements and capital

controls, and barriers to entry in markets where the government owns or controls businesses.

### The first known system of taxation

The first known system of taxation was in Ancient Egypt around 3000–2800 BC in the First Dynasty of Egypt of the Old Kingdom of Egypt. The earliest and most widespread form of taxation was the *corvée* and tithe. The *corvée* was forced labour provided to the state by peasants too poor to pay other forms of taxation (*labour* in ancient Egyptian is a synonym for taxes). Records from the time document that the Pharaoh would conduct a biennial tour of the kingdom, collecting tithes from the people. Other records are granary receipts on limestone flakes and papyrus. Early taxation is also described in the Bible. In Genesis (chapter 47, verse 24 – the New International Version), it states "But when the crop comes in, give a fifth of it to Pharaoh. The other four-fifths you may keep as seed for the fields and as food for yourselves and your households and your children". Joseph was telling the people of Egypt how to divide their crop, providing a portion to the Pharaoh. A share (20%) of the crop was the tax (in this case, a special rather than an ordinary tax, as it was gathered against an expected famine).

In the Persian Empire, a regulated and sustainable tax system was introduced by Darius I the Great in 500 BC; the Persian system of taxation was tailored to each Satrapy (the area ruled by a Satrap or provincial governor). At differing times, there were between 20 and 30 Satrapies in the Empire and each was assessed according to its supposed productivity. It was the responsibility of the Satrap to collect the due amount and to send it to the treasury, after deducting his expenses (the expenses and the power of deciding precisely how and from whom to raise the money in the province, offer maximum opportunity for rich pickings). The quantities demanded from the various provinces gave a vivid picture of their economic potential. For instance, Babylon was assessed for the highest amount and for a startling mixture of commodities; 1,000 silver talents and four months supply of food for the army. India, a province famed for its gold, was to supply gold dust equal in value to the very large amount of 4,680 silver talents. Egypt was known for the wealth of its crops; it was to be the granary of the Persian Empire (and, later, of the Roman Empire) and was required to provide 120,000 measures of grain in addition to 700 talents of silver. This tax was exclusively levied on Satrapies based on their lands, productive capacity and tribute levels.

The Rosetta Stone, a tax concession issued by Ptolemy V in 196 BC and written in three languages "led to the most famous decipherment in history—the cracking of hieroglyphics".

Islamic rulers imposed *jizya* (a poll tax on conquered non-Muslims). In India this practice began in the 11th century.

## Trends

Numerous records of government tax collection in Europe since at least the 17th century are still available today. But taxation levels are hard to compare to the size and flow of the economy since production numbers are not as readily available. Government expenditures and revenue in France during the 17th century went from about 24.30 million *livres* in 1600–10 to about 126.86 million *livres* in 1650–59 to about 117.99 million *livres* in 1700–10 when government debt had reached 1.6 billion *livres*. In 1780–89, it reached 421.50 million *livres*. Taxation as a percentage of production of final goods may have reached 15–20% during the 17th century in places such as France, the Netherlands, and Scandinavia. During the war-filled years of the eighteenth and early nineteenth century, tax rates in Europe increased dramatically as war became more expensive and governments became more centralized and adept at gathering taxes. This increase was greatest in England, Peter Mathias and Patrick O'Brien found that the tax burden increased by 85% over this period. Another study confirmed this number, finding that per capita tax revenues had grown almost sixfold over the eighteenth century, but that steady economic growth had made the real burden on each individual only double over this period before the industrial revolution. Effective tax rates were higher in Britain than France the years before the French Revolution, twice in per capita income comparison, but they were mostly placed on international trade. In France, taxes were lower but the burden was mainly on landowners, individuals, and internal trade and thus created far more resentment.

Taxation as a percentage of GDP 2016 was 45.9% in Denmark, 45.3% in France, 33.2% in the United Kingdom, 26% in the United States, and among all OECD members an average of 34.3% .

## Forms

In monetary economies prior to fiat banking, a critical form of taxation was seigniorage, the tax on the creation of money.

Other obsolete forms of taxation include:



- Scutage, which is paid in lieu of military service; strictly speaking, it is a commutation of a non-tax obligation rather than a tax as such but functioning as a tax in practice.
- Tallage, a tax on feudal dependents.
- Tithe, a tax-like payment (one tenth of one's earnings or agricultural produce), paid to the Church (and thus too specific to be a tax in strict technical terms). This should not be confused with the modern practice of the same name which is normally voluntary.
- (Feudal) aids, a type of tax or due that was paid by a vassal to his lord during feudal times.
- Danegeld, a medieval land tax originally raised to pay off raiding Danes and later used to fund military expenditures.
- Carucage, a tax which replaced the danegeld in England.
- Tax farming, the principle of assigning the responsibility for tax revenue collection to private citizens or groups.
- Socage, a feudal tax system based on land rent.
- Burgage, a feudal tax system based on land rent.

Some principalities taxed windows, doors, or cabinets to reduce consumption of imported glass and hardware. Armoires, hutches, and wardrobes were employed to evade taxes on doors and cabinets. In some circumstances, taxes are also used to enforce public policy like congestion charge (to cut road traffic and encourage public transport) in London. In Tsarist Russia, taxes were clamped on beards. Today, one of the most-complicated taxation systems worldwide is in Germany. Three quarters of the world's taxation literature refers to the German system. Under the German system, there are 118 laws, 185 forms, and 96,000 regulations, spending €3.7 billion to collect the income tax. In the United States, the IRS has about 1,177 forms and instructions, 28.4111 megabytes of Internal Revenue Code which contained 3.8 million words as of 1 February 2010, numerous tax regulations in the Code of Federal Regulations, and supplementary material in the Internal Revenue Bulletin. Today, governments in more advanced economies (i.e. Europe and North America) tend to rely more on direct taxes, while developing economies (i.e. India and several African countries) rely more on indirect taxes.

#### Incidence

Law establishes from whom a tax is collected. In many countries, taxes are imposed on business (such as corporate taxes or portions of payroll taxes). However, who ultimately pays the tax (the tax "burden") is determined by the marketplace as taxes become embedded into production costs. Economic theory suggests that the economic effect of tax does not necessarily fall at the point where it is legally levied. For instance, a tax on employment paid by employers will impact on the employee, at

least in the long run. The greatest share of the tax burden tends to fall on the most inelastic factor involved—the part of the transaction which is affected least by a change in price. So, for instance, a tax on wages in a town will (at least in the long run) affect property-owners in that area.

Depending on how quantities supplied and demanded vary with price (the "elasticities" of supply and demand), a tax can be absorbed by the seller (in the form of lower pre-tax prices), or by the buyer (in the form of higher post-tax prices). If the elasticity of supply is low, more of the tax will be paid by the supplier. If the elasticity of demand is low, more will be paid by the customer; and, contrariwise for the cases where those elasticities are high. If the seller is a competitive firm, the tax burden is distributed over the factors of production depending on the elasticities thereof; this includes workers (in the form of lower wages), capital investors (in the form of loss to shareholders), landowners (in the form of lower rents), entrepreneurs (in the form of lower wages of superintendence) and customers (in the form of higher prices).

To show this relationship, suppose that the market price of a product is \$1.00, and that a \$0.50 tax is imposed on the product that, by law, is to be collected from the seller. If the product has an elastic demand, a greater portion of the tax will be absorbed by the seller. This is because goods with elastic demand cause a large decline in quantity demanded for a small increase in price. Therefore, in order to stabilize sales, the seller absorbs more of the additional tax burden. For example, the seller might drop the price of the product to \$0.70 so that, after adding in the tax, the buyer pays a total of \$1.20, or \$0.20 more than he did before the \$0.50 tax was imposed. In this example, the buyer has paid \$0.20 of the \$0.50 tax (in the form of a post-tax price) and the seller has paid the remaining \$0.30 (in the form of a lower pre-tax price) .

### Government spending

The purpose of taxation is to provide for government spending without inflation. The provision of public goods such as roads and other infrastructure, schools, a social safety net, health care, national defense, law enforcement, and a courts system increases the economic welfare of society if the benefit outweighs the costs involved.

### Pigovian

The existence of a tax can *increase* economic efficiency in some cases. If there is a negative externality associated with a good, meaning that it has negative effects not felt by the consumer, then a free market will trade too much of that good. By taxing the good, the government can increase overall welfare as well as raising revenue. This type of tax is called a Pigovian tax, after economist Arthur Pigou.

Possible Pigovian taxes include those on polluting fuels (like petrol), taxes on goods which incur public healthcare costs (such as alcohol or tobacco), and charges for existing 'free' public goods (like congestion charging) are another possibility.

### Reduced inequality

Progressive taxation may reduce economic inequality. This effect occurs even when the tax revenue isn't redistributed.

### Reduced economic welfare

Most taxes have side effects that reduce economic welfare, either by mandating unproductive labor (compliance costs) or by creating distortions to economic incentives (deadweight loss and perverse incentives).

#### *Cost of compliance*

Although governments must spend money on tax collection activities, some of the costs, particularly for keeping records and filling out forms, are borne by businesses and by private individuals. These are collectively called costs of compliance. More complex tax systems tend to have higher compliance costs. This fact can be used as the basis for practical or moral arguments in favor of tax simplification (such as the FairTax or OneTax, and some flat tax proposals).

#### *Deadweight costs*

In the absence of negative externalities, the introduction of taxes into a market reduces economic efficiency by causing deadweight loss. In a competitive market the price of a particular economic good adjusts to ensure that all trades which benefit both the buyer and the seller of a good occur. The introduction of a tax causes the price received by the seller to be less than the cost to the buyer by the amount of the tax. This causes fewer transactions to occur, which reduces economic welfare; the individuals or businesses involved are less well off than before the tax. The tax burden and the amount of deadweight cost is dependent on the elasticity of supply and demand for the good taxed.

Most taxes—including income tax and sales tax—can have significant deadweight costs. The only way to avoid deadweight costs in an economy that is generally competitive is to refrain from taxes that change economic incentives. Such taxes

include the land value tax, where the tax is on a good in completely inelastic supply, a lump sum tax such as a poll tax (head tax) which is paid by all adults regardless of their choices. Arguably a windfall profits tax which is entirely unanticipated can also fall into this category.

Deadweight loss does not account for the effect taxes have in leveling the business playing field. Businesses that have more money are better suited to fend off competition. It is common that an industry with a small amount of very large corporations has a very high barrier of entry for new entrants coming into the marketplace. This is due to the fact that the larger the corporation, the better its position to negotiate with suppliers. Also, larger companies may be able to operate at low or even negative profits for extended periods of time, thus pushing out competition. More progressive taxation of profits, however, would reduce such barriers for new entrants, thereby increasing competition and ultimately benefiting consumers.

### Perverse incentives

Complexity of the tax code in developed economies offer perverse tax incentives. The more details of tax policy there are, the more opportunities for legal tax avoidance and illegal tax evasion. These not only result in lost revenue, but involve additional costs: for instance, payments made for tax advice are essentially deadweight costs because they add no wealth to the economy. Perverse incentives also occur because of non-taxable 'hidden' transactions; for instance, a sale from one company to another might be liable for sales tax, but if the same goods were shipped from one branch of a corporation to another, no tax would be payable.

To address these issues, economists often suggest simple and transparent tax structures which avoid providing loopholes. Sales tax, for instance, can be replaced with a value added tax which disregards intermediate transactions.

### Reduced production

If a tax is paid on outsourced services that is not also charged on services performed for oneself, then it may be cheaper to perform the services oneself than to pay someone else—even considering losses in economic efficiency.

For example, suppose jobs A and B are both valued at \$1 on the market. And suppose that because of your unique abilities, you can do job A twice over (100% extra output) in the same effort as it would take you to do job B. But job B is the one that you need done right now. Under perfect division of labor, you would do job A and somebody else would do job B. Your unique abilities would always be rewarded.

Income taxation has the worst effect on division of labor in the form of barter. Suppose that the person doing job B is actually interested in having job A done for him. Now suppose you could amazingly do job A four times over, selling half your work on the market for cash just to pay your tax bill. The other half of the work you do for somebody who does job B twice over but he has to sell off half to pay his tax bill. You're left with one unit of job B, but only if you were 400% as productive doing job A! In this case of 50% tax on barter income, anything less than 400% productivity will cause the division of labor to fail.

In summary, depending on the situation a 50% tax rate can cause the division of labor to fail even where productivity gains of up to 300% would have resulted. Even a mere 30% tax rate can negate the advantage of a 100% productivity gain.

### **Nicolas Kaldor's research**

Following Nicolas Kaldor's research, public finance in developing countries is strongly tied to state capacity and financial development. As state capacity develops, states not only increase the level of taxation but also the pattern of taxation. With the increase of larger tax bases and the diminish of the importance of trading tax, while income tax gains more importance. According to Tilly's argument, state capacity evolves as response to the emergence of war. War is an incentive for states to raise tax and strengthen states capacity. Historically, many taxation breakthroughs took place during the wartime. The introduction of income tax in Britain was due to the Napoleonic War in 1798. US first introduce income tax during Civil War. Taxation is constrained by the fiscal and legal capacities of a country. Fiscal and legal capacities also complement each other. A well-designed tax system can minimize efficiency loss and boost economic growth. With better compliance and better support to financial institutions and individual property, the government will be able to collect more tax. Although wealthier countries have higher tax revenue, economic growth does not always translate to higher tax revenue. For example, in India, increases in exemptions leads to the stagnation of income tax revenue at around 0.5% of GDP since 1986.

Researchers for EPS PEAKS stated that the core purpose of taxation is revenue mobilisation, providing resources for National Budgets, and forming an important part of macroeconomic management. They said economic theory has focused on the need to 'optimise' the system through balancing efficiency and equity, understanding the impacts on production, and consumption as well as distribution, redistribution, and welfare.

They state that taxes and tax reliefs have also been used as a tool for behavioural change, to influence investment decisions, labour supply, consumption patterns, and positive and negative economic spill-overs (externalities), and ultimately, the promotion of economic growth and development. The tax system and its administration also play an important role in state-building and governance, as a principal form of 'social contract' between the state and citizens who can, as taxpayers, exert accountability on the state as a consequence.

The researchers wrote that domestic revenue forms an important part of a developing country's public financing as it is more stable and predictable than Overseas Development Assistance and necessary for a country to be self-sufficient. They found that domestic revenue flows are, on average, already much larger than ODA, with aid worth less than 10% of collected taxes in Africa as a whole.

However, in a quarter of African countries Overseas Development Assistance does exceed tax collection, with these more likely to be non-resource-rich countries. This suggests countries making most progress replacing aid with tax revenue tend to be those benefiting disproportionately from rising prices of energy and commodities.

The author found tax revenue as a percentage of GDP varying greatly around a global average of 19%. This data also indicates countries with higher GDP tend to have higher tax to GDP ratios, demonstrating that higher income is associated with more than proportionately higher tax revenue. On average, high-income countries have tax revenue as a percentage of GDP of around 22%, compared to 18% in middle-income countries and 14% in low-income countries.

In high-income countries, the highest tax-to-GDP ratio is in Denmark at 47% and the lowest is in Kuwait at 0.8%, reflecting low taxes from strong oil revenues. Long-term average performance of tax revenue as a share of GDP in low-income countries has been largely stagnant, although most have shown some improvement in more recent years. On average, resource-rich countries have made the most progress, rising from 10% in the mid-1990s to around 17% in 2008. Non resource rich countries made some progress, with average tax revenues increasing from 10% to 15% over the same period.

Many low-income countries have a tax-to-GDP ratio of less than 15% which could be due to low tax potential, such as a limited taxable economic activity, or low tax effort due to policy choice, non-compliance, or administrative constraints.

Some low-income countries have relatively high tax-to- GDP ratios due to resource tax revenues (e.g. Angola) or relatively efficient tax administration

(e.g. Kenya, Brazil) whereas some middle-income countries have lower tax-to-GDP ratios (e.g. Malaysia) which reflect a more tax-friendly policy choice.

While overall tax revenues have remained broadly constant, the global trend shows trade taxes have been declining as a proportion of total revenues (IMF, 2011), with the share of revenue shifting away from border trade taxes towards domestically levied sales taxes on goods and services. Low-income countries tend to have a higher dependence on trade taxes, and a smaller proportion of income and consumption taxes, when compared to high income countries.

One indicator of the taxpaying experience was captured in the 'Doing Business' survey, which compares the total tax rate, time spent complying with tax procedures and the number of payments required through the year, across 176 countries. The 'easiest' countries in which to pay taxes are located in the Middle East with the UAE ranking first, followed by Qatar and Saudi Arabia, most likely reflecting low tax regimes in those countries. Countries in Sub-Saharan Africa are among the 'hardest' to pay with the Central African Republic, Republic of Congo, Guinea and Chad in the bottom 5, reflecting higher total tax rates and a greater administrative burden to comply.

The below facts were compiled by EPS PEAKS researchers:

- Trade liberalisation has led to a decline in trade taxes as a share of total revenues and GDP.
- Resource-rich countries tend to collect more revenue as a share of GDP, but this is more volatile. Sub-Saharan African countries that are resource rich have performed better tax collecting than non-resource-rich countries, but revenues are more volatile from year to year. By strengthening revenue management, there are huge opportunities for investment for development and growth.
- Developing countries have an informal sector representing an average of around 40%, perhaps up to 60% in some. Informal sectors feature many small informal traders who may not be efficient in bringing into the tax net, since the cost of collection is high and revenue potential limited (although there are broader governance benefits). There is also an issue of non-compliant companies who are 'hard to tax', evading taxes and should be brought into the tax net.
- In many low-income countries, the majority of revenue is collected from a narrow tax base, sometimes because of a limited range of taxable economic activities. There is therefore dependence on few taxpayers, often multinationals, that can exacerbate the revenue challenge by minimising their

tax liability, in some cases abusing a lack of capacity in revenue authorities, sometimes through transfer pricing abuse.

- Developing and developed countries face huge challenges in taxing multinationals and international citizens. Estimates of tax revenue losses from evasion and avoidance in developing countries are limited by a lack of data and methodological shortcomings, but some estimates are significant.
- Countries use incentives to attract investment but doing this may be unnecessarily giving up revenue as evidence suggests that investors are influenced more by economic fundamentals like market size, infrastructure, and skills, and only marginally by tax incentives (IFC investor surveys).
- In low-income countries, compliance costs are high, they are lengthy processes, frequent tax payments, bribes and corruption.
- Administrations are often under-resourced, resources aren't effectively targeted on areas of greatest impact, and mid-level management is weak. Coordination between domestic and customs is weak, which is especially important for VAT. Weak administration, governance and corruption tend to be associated with low revenue collections (IMF, 2011).
- Evidence on the effect of aid on tax revenues is inconclusive. Tax revenue is more stable and sustainable than aid. While a disincentive effect of aid on revenue may be expected and was supported by some early studies, recent evidence does not support that conclusion, and in some cases, points towards higher tax revenue following support for revenue mobilisation.
- Of all regions, Africa has the highest total tax rates borne by business at 57.4% of profit on average, but has reduced the most since 2004, from 70%, partly due to introducing VAT and this is likely to have a beneficial effect on attracting investment.
- Fragile states are less able to expand tax revenue as a percentage of GDP and any gains are more difficult to sustain. Tax administration tends to collapse if conflict reduces state controlled territory or reduces productivity .
- As economies are rebuilt after conflicts, there can be good progress in developing effective tax systems. Liberia expanded from 10.6% of GDP in 2003 to 21.3% in 2011. Mozambique increased from 10.5% of GDP in 1994 to around 17.7% in 2011.

Many developing countries have attempted to improve their tax collection capacity by streamlining business processes and introducing information and communication technologies .



According to most political philosophies, taxes are justified as they fund activities that are necessary and beneficial to society. Additionally, progressive taxation can be used to reduce economic inequality in a society. According to this view, taxation in modern nation-states benefit the majority of the population and social development. A common presentation of this view, paraphrasing various statements by Oliver Wendell Holmes, Jr. is "Taxes are the price of civilization".

It can also be argued that in a democracy, because the government is the party performing the act of imposing taxes, society as a whole decides how the tax system should be organized. The American Revolution's "No taxation without representation" slogan implied this view. For traditional conservatives, the payment of taxation is justified as part of the general obligations of citizens to obey the law and support established institutions. The conservative position is encapsulated in perhaps the most famous adage of public finance, "An old tax is a good tax". Conservatives advocate the "fundamental conservative premise that no one should be excused from paying for government, lest they come to believe that government is costless to them with the certain consequence that they will demand more government 'services'." · Social democrats generally favor higher levels of taxation to fund public provision of a wide range of services such as universal health care and education, as well as the provision of a range of welfare benefits. As argued by Tony Crosland and others, the capacity to tax income from capital is a central element of the social democratic case for a mixed economy as against Marxist arguments for comprehensive public ownership of capital. Many libertarians recommend a minimal level of taxation in order to maximize the protection of liberty.

Compulsory taxation of individuals, such as income tax, is often justified on grounds including territorial sovereignty, and the social contract. Defenders of business taxation argue that it is an efficient method of taxing income that ultimately flows to individuals, or that separate taxation of business is justified on the grounds that commercial activity necessarily involves use of publicly established and maintained economic infrastructure, and that businesses are in effect charged for this use. Georgist economists argue that all of the economic rent collected from natural resources (land, mineral extraction, fishing quotas, etc.) is unearned income, and belongs to the community rather than any individual. They advocate a high tax (the "Single Tax") on land and other natural resources to return this unearned income to the state, but no other taxes.

Because payment of tax is compulsory and enforced by the legal system, rather than voluntary like crowdfunding, some political philosophies view taxation as theft, extortion, (or as slavery, or as a violation of property rights), or tyranny, accusing the government of levying taxes via force and coercive means. Voluntaryists, individualist

anarchists, Objectivists, anarcho-capitalists, and libertarians see taxation as government aggression. The view that democracy legitimizes taxation is rejected by those who argue that all forms of government, including laws chosen by democratic means, are fundamentally oppressive. According to Ludwig von Mises, "society as a whole" should not make such decisions, due to methodological individualism. Libertarian opponents of taxation claim that governmental protection, such as police and defense forces might be replaced by market alternatives such as private defense agencies, arbitration agencies or voluntary contributions. Walter E. Williams, professor of economics at George Mason University, stated "Government income redistribution programs produce the same result as theft. In fact, that's what a thief does; he redistributes income. The difference between government and thievery is mostly a matter of legality."

Karl Marx assumed that taxation would be unnecessary after the advent of communism and looked forward to the "withering away of the state". In socialist economies such as that of China, taxation played a minor role, since most government income was derived from the ownership of enterprises, and it was argued by some that monetary taxation was not necessary. While the morality of taxation is sometimes questioned, most arguments about taxation revolve around the degree and method of taxation and associated government spending, not taxation itself.

Tax choice is the theory that taxpayers should have more control with how their individual taxes are allocated. If taxpayers could choose which government organizations received their taxes, opportunity cost decisions would integrate their partial knowledge. For example, a taxpayer who allocated more of his taxes on public education would have less to allocate on public healthcare. Supporters argue that allowing taxpayers to demonstrate their preferences would help ensure that the government succeeds at efficiently producing the public goods that taxpayers truly value. This would end real estate speculation, business cycles, unemployment and distribute wealth much more evenly. Joseph Stiglitz's Henry George Theorem predicts its sufficiency because—as George also noted—public spending raises land value.

Geoists (Georgists and geolibertarians) state that taxation should primarily collect economic rent, in particular the value of land, for both reasons of economic efficiency as well as morality. The efficiency of using economic rent for taxation is (as economists agree) due to the fact that such taxation cannot be passed on and does not create any dead-weight loss, and that it removes the incentive to speculate on

land. Its morality is based on the Geoist premise that private property is justified for products of labour but not for land and natural resources.

Economist and social reformer Henry George opposed sales taxes and protective tariffs for their negative impact on trade. He also believed in the right of each person to the fruits of their own labour and productive investment. Therefore, income from labour and proper capital should remain untaxed. For this reason many Geoists—in particular those that call themselves geolibertarian—share the view with libertarians that these types of taxation (but not all) are immoral and even theft. George stated there should be one single tax: the Land Value Tax, which is considered both efficient and moral. Demand for specific land is dependent on nature, but even more so on the presence of communities, trade, and government infrastructure, particularly in urban environments. Therefore, the economic rent of land is not the product of one particular individual and it may be claimed for public expenses. According to George, this would end real estate bubbles, business cycles, unemployment and distribute wealth much more evenly. Joseph Stiglitz's Henry George Theorem predicts its sufficiency for financing public goods because those raise land value.

John Locke stated that whenever labour is mixed with natural resources, such as is the case with improved land, private property is justified under the proviso that there must be enough other natural resources of the same quality available to others. Geoists state that the Lockean proviso is violated wherever land value is greater than zero. Therefore, under the assumed principle of equal rights of all people to natural resources, the occupier of any such land must compensate the rest of society to the amount of that value. For this reason, geoists generally believe that such payment cannot be regarded as a true 'tax', but rather a compensation or fee. This means that while Geoists also regard taxation as an instrument of social justice, contrary to social democrats and social liberals they do not regard it as an instrument of redistribution but rather a 'predistribution' or simply a correct distribution of the commons.

Modern geoists note that land in the classical economic meaning of the word referred to all natural resources, and thus also includes resources such as mineral deposits, water bodies and the electromagnetic spectrum, to which privileged access also generates economic rent that must be compensated. Under the same reasoning most of them also consider pigouvian taxes as compensation for environmental damage or privilege as acceptable and even necessary.

## Laffer curve

In economics, the Laffer curve is a theoretical representation of the relationship between government revenue raised by taxation and all possible rates of taxation. It is used to illustrate the concept of taxable income elasticity (that taxable income will change in response to changes in the rate of taxation). The curve is constructed by thought experiment. First, the amount of tax revenue raised at the extreme tax rates of 0% and 100% is considered. It is clear that a 0% tax rate raises no revenue, but the Laffer curve hypothesis is that a 100% tax rate will also generate no revenue because at such a rate there is no longer any incentive for a rational taxpayer to earn any income, thus the revenue raised will be 100% of nothing. If both a 0% rate and 100% rate of taxation generate no revenue, it follows from the extreme value theorem that there must exist at least one rate in between where tax revenue would be a maximum. The Laffer curve is typically represented as a graph which starts at 0% tax, zero revenue, rises to a maximum rate of revenue raised at an intermediate rate of taxation and then falls again to zero revenue at a 100% tax rate.

One potential result of the Laffer curve is that increasing tax rates beyond a certain point will become counterproductive for raising further tax revenue. A hypothetical Laffer curve for any given economy can only be estimated and such estimates are sometimes controversial. The New Palgrave Dictionary of Economics reports that estimates of revenue-maximizing tax rates have varied widely, with a mid-range of around 70% .

## Optimal

Most governments take revenue which exceeds that which can be provided by non-distortionary taxes or through taxes which give a double dividend. Optimal taxation theory is the branch of economics that considers how taxes can be structured to give the least deadweight costs, or to give the best outcomes in terms of social welfare. The Ramsey problem deals with minimizing deadweight costs. Because deadweight costs are related to the elasticity of supply and demand for a good, it follows that putting the highest tax rates on the goods for which there is most inelastic supply and demand will result in the least overall deadweight costs. Some economists sought to integrate optimal tax theory with the social welfare function, which is the economic expression of the idea that equality is valuable to a greater or lesser extent. If individuals experience diminishing returns from income, then the optimum distribution of income for society involves a progressive income tax. Mirrlees optimal income tax is a detailed theoretical model of the optimum progressive income tax

along these lines. Over the last years the validity of the theory of optimal taxation was discussed by many political economists.

### **tax rate**

Taxes are most often levied as a percentage, called the *tax rate*. An important distinction when talking about tax rates is to distinguish between the marginal rate and the effective tax rate. The effective rate is the total tax paid divided by the total amount the tax is paid on, while the marginal rate is the rate paid on the next dollar of income earned. For example, if income is taxed on a formula of 5% from \$0 up to \$50,000, 10% from \$50,000 to \$100,000, and 15% over \$100,000, a taxpayer with income of \$175,000 would pay a total of \$18,750 in taxes.

# Value added

In business, the difference between the sale price and the production cost of a product is the unit profit. In economics, the sum of the unit profit, the unit depreciation cost, and the unit labor cost is the unit value added. Summing value added per unit over all units sold is total value added. Total value added is equivalent to revenue less intermediate consumption. Value added is a higher portion of revenue for integrated companies, e.g., manufacturing companies, and a lower portion of revenue for less integrated companies, e.g., retail companies. Total value added is very closely approximated by compensation of employees plus earnings before taxes. The first component is a return to labor and the second component is a return to capital. In national accounts used in macroeconomics, it refers to the contribution of the factors of production, i.e., capital (e.g., land and capital goods) and labor, to raising the value of a product and corresponds to the incomes received by the owners of these factors. The national value added is shared between capital and labor (as the factors of production), and this sharing gives rise to issues of distribution.

Outside of economics, value added refers to "extra" feature(s) of an item of interest (product, service, person etc.) that go beyond the standard expectations and provide something "more", even if the cost is higher to the client or purchaser. Value-added features give competitive edges to companies with otherwise more expensive products.

Value-added methods and measurements are also being utilized in education as part of a national movement towards teacher evaluation and accountability in the United States. This type of measure is known as a value added modeling or measures.

The factors of production provide "services" which raise the unit price of a product (X) relative to the cost per unit of intermediate goods used up in the production of X.

In national accounts such as the United Nations System of National Accounts (UNSNA) or the United States National Income and Product Accounts (NIPA), gross value added is obtained by deducting intermediate consumption from gross output. Thus gross value added is equal to net output. Net value added is obtained by deducting consumption of fixed capital (or depreciation charges) from gross value added. Net value added therefore equals gross wages, pre-tax profits net of depreciation, and indirect taxes less subsidies.

A difference between Marxist theory and conventional national accounts concerns the interpretation of the distinction between *new* value created, transfers of value and *conserved value*, and of the definition of "production".

For example, theory regards the "imputed rental value of owner-occupied housing" which is included in GDP as a *fictitious* entry; if the housing is owner-occupied, this housing cannot also yield real income from its market-based rental value at the same time.

In the 1993 manual of the United Nations System of National Accounts (UNSNA), the concept of "imputed rental value of owner occupied housing" is explained as follows:

"6.89. Heads of household who own the dwellings which the households occupy are formally treated as owners of unincorporated enterprises that produce housing services consumed by those same households. As well-organized markets for rented housing exist in most countries, the output of own-account housing services can be valued using the prices of the same kinds of services sold on the market in line with the general valuation rules adopted for goods or services produced on own account. In other words, the output of the housing services produced by owner-occupiers is valued at the estimated rental that a tenant would pay for the same accommodation, taking into account factors such as location, neighbourhood amenities, etc. as well as the size and quality of the dwelling itself. The same figure is recorded under household final consumption expenditures."

Marxist economists object to this accounting procedure on the ground that the monetary imputation made refers to a flow of income which does not exist, because most home owners do not rent out their homes if they are living in them.

Another important difference concerns the treatment of property rents, land rents and real estate rents. In the Marxian interpretation, many of these rents, insofar as they are paid out of the sales of current output of production, constitute part of the new value created and part of the real cost structure of production. They should therefore be included in the valuation of the net product. This contrasts with the conventional national accounting procedure, where many property rents are excluded from new value-added and net product on the ground that they do not reflect a productive contribution.

Value added tax (VAT) is a tax on sales. It works by being charged on the sale price of new goods and services, whether purchased by intermediate or final consumers.

However, intermediate consumers may reclaim VAT paid on their inputs, so that the net VAT is based on the value added by producing this good or service.



## Value-added reseller

A value-added reseller (VAR) is a company that adds features or services to an existing product, then resells it (usually to end-users) as an integrated product or complete "turn-key" solution. This practice occurs commonly in the electronics, or IT industry, where, for example, a VAR might bundle a software application with supplied hardware.

The added value can come from professional services such as integrating, customizing, consulting, training and implementation. The value can also be added by developing a specific application for the product designed for the customer's needs which is then resold as a new package. VARs incorporate platform software into their own software product packages.

The term is often used in the computer industry, where a company purchases computer components and builds (for example) a fully operational personal computer system usually customized for a specific task (such as non-linear video editing). By doing this, the company has added value above the cost of the individual computer components. Customers would purchase the system from the reseller if they lacked the time or experience to assemble the system themselves. Tandy Corporation was an example of a company that sold products through VARs, using relabeled versions of its computers.

# Wage labor

Wage labor is the socioeconomic relationship between a worker and an employer, where the worker sells his or her labour power under a formal or informal employment contract. These transactions usually occur in a labour market where wages are market determined. In exchange for the wages paid, the work product generally becomes the undifferentiated property of the employer, except for special cases such as the vesting of intellectual property patents in the United States where patent rights are usually vested in the employee personally responsible for the invention. A wage labourer is a person whose primary means of income is from the selling of his or her labour power in this way.

In modern mixed economies such as those of the OECD countries, it is currently the most common form of work arrangement. Although most labour is organised as per this structure, the wage work arrangements of CEOs, professional employees, and professional contract workers are sometimes conflated with class assignments, so that "wage labour" is considered to apply only to unskilled, semi-skilled or manual labour. Various studies have shown that employees generally spend 1.5 to 3 hours a day on non-work related activities.

## Types

The most common form of wage labour currently is ordinary direct, or "full-time". This is employment in which a free worker sells his or her labour for an indeterminate time (from a few years to the entire career of the worker), in return for a money-wage or salary and a continuing relationship with the employer which it does not in general offer contractors or other irregular staff. However, wage labour takes many other forms, and explicit as opposed to implicit (i.e. conditioned by local labour and tax law) contracts are not uncommon. Economic history shows a great variety of ways, in which labour is traded and exchanged. The differences show up in the form of:

- Employment status – a worker could be employed full-time, part-time, or on a casual basis. He or she could be employed for example temporarily for a specific project only, or on a permanent basis. Part-time wage labour could

combine with part-time self-employment. The worker could be employed also as an apprentice.

- Civil (legal) status – the worker could for example be a free citizen, an indentured labourer, the subject of forced labour (including some prison or army labour); a worker could be assigned by the political authorities to a task, they could be a semi-slave or a serf bound to the land who is hired out part of the time. So the labour might be performed on a more or less voluntary basis, or on a more or less involuntary basis, in which there are many gradations.
- Method of payment (remuneration or compensation) – The work done could be paid "in cash" (a money-wage) or "in kind" (through receiving goods and/or services), or in the form of "piece rates" where the wage is directly dependent on how much the worker produces. In some cases, the worker might be paid in the form of credit used to buy goods and services, or in the form of stock options or shares in an enterprise.
- Method of hiring – the worker might engage in a labour-contract on his or her own initiative, or he or she might hire out their labour as part of a group. But he or she may also hire out their labour via an intermediary (such as an employment agency) to a third party. In this case, he or she is paid by the intermediary, but works for a third party which pays the intermediary. In some cases, labour is subcontracted several times, with several intermediaries. Another possibility is that the worker is assigned or posted to a job by a political authority, or that an agency hires out a worker to an enterprise *together* with means of production.

## Criticisms

Wage labour has long been compared to slavery by socialists. As a result, the term "wage slavery" is often utilised as a pejorative for wage labour. Similarly, advocates of slavery looked upon the "comparative evils of Slave Society and of Free Society, of slavery to human Masters and slavery to Capital," and proceeded to argue persuasively that wage slavery was actually *worse* than chattel slavery. Slavery apologists like George Fitzhugh contended that workers only accepted wage labour with the passage of time, as they became "familiarized and inattentive to the infected social atmosphere they continually inhaled."

According to Noam Chomsky, analysis of the psychological implications of wage slavery goes back to the Enlightenment era. In his 1791 book *On the Limits of State Action*, classical liberal thinker Wilhelm von Humboldt explained how "whatever does not spring from a man's free choice, or is only the result of instruction and guidance, does not enter into his very nature; he does not perform it with truly human

energies, but merely with mechanical exactness" and so when the labourer works under external control, "we may admire what he does, but we despise what he is." Both the Milgram and Stanford experiments have been found useful in the psychological study of wage-based workplace relations. Additionally, as per anthropologist David Graeber, the earliest wage labour contracts we know about were in fact contracts for the rental of chattel slaves (usually the owner would receive a share of the money, and the slave, another, with which to maintain his or her living expenses.) Such arrangements, according to Graeber, were quite common in New World slavery as well, whether in the United States or Brazil. C. L. R. James argued in *The Black Jacobins* that most of the techniques of human organisation employed on factory workers during the industrial revolution were first developed on slave plantations.

For Marxists, labour-as-commodity, which is how they regard wage labour, provides a fundamental point of attack against capitalism. "It can be persuasively argued," noted one concerned philosopher, "that the conception of the worker's labour as a commodity confirms Marx's stigmatisation of the wage system of private capitalism as 'wage-slavery;' that is, as an instrument of the capitalist's for reducing the worker's condition to that of a slave, if not below it." That this objection is fundamental follows immediately from Marx's conclusion that wage labour is the very foundation of capitalism: "Without a *class dependent on wages*, the moment individuals confront each other as free persons, there can be no production of surplus value; without the production of surplus-value there can be no capitalist production, and hence no capital and no capitalist!"

## Wage share

In economics, the wage or labor share is the part of national income, or the income of a particular economic sector, allocated to wages (labor). It is related to the capital or profit share, the part of income going to capital, which is also known as the K–Y ratio. The labor wage is a key indicator for the distribution of income.

The wage share is countercyclical; that is, it tends to fall when output increases and rise when output decreases. Despite fluctuating over the business cycle, the wage share was once thought to be stable, which Keynes described as "one of the most surprising, yet best-established facts in the whole range of economic statistics." However, the wage share has declined in most developed countries since the 1980s.

The wage share can be defined in various ways, but empirically it is usually defined as total labor compensation or labor costs over nominal GDP or gross value added.

Because the self-employed perform labor which is not rewarded with wages, the labor share may be underestimated in sectors with a high rate of self-employment. One approach is to assume the labor share of proprietors' income to be fixed. The OECD and the Bureau of Labor Statistics adjust labor compensation by assuming that the self-employed have the same average wage as employees in the same sector.

The importance of the distribution of income between the factors of production – capital, land and labor – has long been recognized. Ricardo (1817) said that to determine the laws which regulate this distribution is the "principal problem in political economy". Cobb and Douglas's *Theory of Production* (1928) introduced empirically-determined constants  $\alpha$  and  $\beta$  which corresponded to the capital and labor share respectively. Cobb and Douglas found that the wage share was about 75%. For most of the 20th century, constant labor share was a stylized fact known as Bowley's law.

Historical measurements of the wage share can be charted using the Federal Reserve Bank of St. Louis's FRED tool, which includes time series published by the Bureau of Labor Statistics and Bureau of Economic Analysis.

# Profit

Profit, in accounting, is an income distributed to the owner in a profitable market production process (business). Profit is a measure of profitability which is the owner's major interest in income formation process of market production. There are several profit measures in common use.

Income formation in market production is always a balance between income generation and income distribution. The income generated is always distributed to the stakeholders of production as economic value within the review period. The profit is the share of income formation the owner is able to keep to himself/herself in the income distribution process. Profit is one of the major sources of economic well-being because it means incomes and opportunities to develop production. The words income, profit and earnings are substitutes in this context.

There are several important profit measures in common use. Note that the words *earnings*, *profit* and *income* are used as substitutes in some of these terms.

- Gross profit equals sales revenue minus cost of goods sold (COGS), thus removing only the part of expenses that can be traced directly to the production or purchase of the goods. Gross profit still includes general (overhead) expenses like R&D, S&M, G&A, also interest expense, taxes and extraordinary items.
- Earnings before interest, taxes, depreciation, and amortization (EBITDA) equals sales revenue minus cost of goods sold and all expenses except for interest, amortization, depreciation and taxes. It measures the cash earnings that can be used to pay interest and repay the principal. Since the interest is paid before income tax is calculated, the debt holder can ignore taxes.
- Earnings before interest and taxes (EBIT) or operating profit equals sales revenue minus cost of goods sold and all expenses except for interest and taxes. This is the surplus generated by operations. It is also known as Operating Profit Before Interest and Taxes (OPBIT) or simply Profit Before Interest and Taxes (PBIT).
- Earnings before taxes (EBT) or net profit before tax equals sales revenue minus cost of goods sold and all expenses except for taxes. It is also known as pre-tax

book income (PTBI), net operating income before taxes or simply pre-tax income.

- Net income or earnings after tax or net profit after tax equals sales revenue after deducting all expenses, including taxes (unless some distinction about the treatment of extraordinary expenses is made). In the US, the term net income is commonly used. Income before extraordinary expenses represents the same but before adjusting for extraordinary items.
- Retained earnings equals earnings after tax minus payable dividends.

To accountants, economic profit, or EP, is a single-period metric to determine the value created by a company in one period—usually a year. It is earnings after tax less the *equity charge*, a risk-weighted cost of capital. This is almost identical to the economists' definition of economic profit.

There are analysts who see the benefit in making adjustments to economic profit such as eliminating the effect of amortized goodwill or capitalizing expenditure on brand advertising to show its value over multiple accounting periods. The underlying concept was first introduced by Eugen Schmalenbach, but the commercial application of the concept of adjusted economic profit was by Stern Stewart & Co. which has trade-marked their adjusted economic profit as Economic Value Added (EVA).

Optimum profit is a theoretical measure and denotes the "right" level of profit a business can achieve. In the business, this figure takes account of marketing strategy, market position, and other methods of increasing returns above the competitive rate.

Accounting profits should include economic profits, which are also called economic rents. For instance, a monopoly can have very high economic profits, and those profits might include a rent on some natural resource that a firm owns, whereby that resource cannot be easily duplicated by other firms.

# Price

In ordinary usage, a price is the quantity of payment or compensation given by one party to another in return for one unit of goods or services.

In modern economies, prices are generally expressed in units of some form of currency. (For commodities, they are expressed as currency per unit weight of the commodity, e.g. euros per kilogram.) Although prices could be quoted as quantities of other goods or services, this sort of barter exchange is rarely seen. Prices are sometimes quoted in terms of vouchers such as trading stamps and air miles. In some circumstances, cigarettes have been used as currency, for example in prisons, in times of hyperinflation, and in some places during World War II. In a black market economy, barter is also relatively common.

In many financial transactions, it is customary to quote prices in other ways. The most obvious example is in pricing a loan, when the cost will be expressed as the percentage rate of interest. The total amount of interest payable depends upon credit risk, the loan amount and the period of the loan. Other examples can be found in pricing financial derivatives and other financial assets. For instance the price of inflation-linked government securities in several countries is quoted as the actual price divided by a factor representing inflation since the security was issued.

“Price” sometimes refers to the quantity of payment *requested* by a seller of goods or services, rather than the eventual payment amount. This requested amount is often called the asking price or selling price, while the actual payment may be called the transaction price or traded price. Likewise, the bid price or buying price is the quantity of payment *offered* by a buyer of goods or services, although this meaning is more common in asset or financial markets than in consumer markets.

Economic price theory asserts that in a free market economy the market price reflects interaction between supply and demand: the price is set so as to equate the quantity being supplied and that being demanded. In turn these quantities are determined by the marginal utility of the asset to different buyers and to different sellers. Supply and demand, and hence price, may be influenced by other factors, such as government subsidy or manipulation through industry collusion.

When a commodity is for sale at multiple locations, the law of one price is generally believed to hold. This essentially states that the cost difference between the locations



cannot be greater than that representing shipping, taxes, other distribution costs and more.

The paradox of value was observed and debated by classical economists. Adam Smith described what is now called the *diamond – water paradox*: diamonds command a higher price than water, yet water is essential for life and diamonds are merely ornamentation. Use value was supposed to give some measure of usefulness, later refined as marginal benefit (which is marginal utility counted in common units of value) while exchange value was the measure of how much one good was in terms of another, namely what is now called relative price.

Marxists assert that value derives from the volume of socially necessary labour time exerted in the creation of an object. This value does not relate to price in a simple manner, and the difficulty of the conversion of the mass of values into the actual prices is known as the transformation problem. However, many recent Marxists deny that any problem exists. Marx was not concerned with proving that prices derive from values. In fact, he admonished the other classical political economists (like Ricardo and Smith) for trying to make this proof. Rather, for Marx, price equals the cost of production (capital-cost and labor-costs) plus the average rate of profit. So if the average rate of profit (return on capital investment) is 22% then prices would reflect cost-of-production plus 22%. The perception that there is a transformation problem in Marx stems from the injection of Walrasian equilibrium theory into Marxism where there is no such thing as equilibrium.

Price is commonly confused with the notion of cost of production, as in "I paid a high cost for buying my new plasma television"; but technically these are different concepts. Price is what a buyer pays to acquire products from a seller. Cost of production concerns the seller's investment (e.g., manufacturing expense) in the product being exchanged with a buyer. For marketing organizations seeking to make a profit, the hope is that price will exceed cost of production so that the organization can see financial gain from the transaction.

Finally, while pricing is a topic central to a company's profitability, pricing decisions are not limited to for-profit companies. The behavior of non-profit organizations, such as charities, educational institutions and industry trade groups, also involve setting prices. For instance, charities seeking to raise money may set different "target" levels for donations that reward donors with increases in status (e.g., name in newsletter), gifts or other benefits; likewise educational and cultural nonprofits often price seats for events in theatres, auditoriums and stadiums. Furthermore, while nonprofit

organizations may not earn a "profit", by definition, it is the case that many nonprofits may desire to maximize *net revenue*—total revenue less total cost—for various programs and activities, such as selling seats to theatrical and cultural performances.

## Price floor

A price floor is a government- or group-imposed price control or limit on how low a price can be charged for a product. A price floor must be higher than the equilibrium price in order to be effective.

A price floor set above the market equilibrium price has several side-effects. Consumers find they must now pay a higher price for the same product. As a result, they reduce their purchases or drop out of the market entirely. Meanwhile, suppliers find they are guaranteed a new, higher price than they were charging before. As a result, they increase production.

Taken together, these effects mean there is now an excess supply (known as a "surplus") of the product in the market to maintain the price floor over the long term. The equilibrium price is determined when the quantity demanded is equal to the quantity supplied.

Further, the effect of mandating a higher price transfers some of the consumer surplus to producer surplus, while creating a deadweight loss as the price moves upward from the equilibrium price.

An example of a price floor is minimum wage laws; in this case, employees are the *suppliers* of labor and the company is the *consumer*. When the minimum wage is set above the equilibrium market price for unskilled labor, unemployment is created (more people are looking for jobs than there are jobs available). A minimum wage above the equilibrium wage would induce employers to hire fewer workers as well as allow more people to enter the labor market; the result is a surplus in the amount of labor available. However, workers would have higher wages. The equilibrium wage for workers would be dependent upon their skill sets along with market conditions.

This model makes several assumptions which may not hold true in reality, however. It assumes the costs of providing labor (food, commuting costs) are below the minimum wage, and that employment status and wages are not sticky. Unemployment in the United States, however, only includes participants of the labor force, which excludes 37.2 percent of Americans as of June 2016.

## Price ceiling

A price ceiling is a government-imposed price control, or limit, on how high a price is charged for a product. Governments use price ceilings to protect consumers from conditions that could make commodities prohibitively expensive. Such conditions can occur during periods of high inflation, in the event of an investment bubble, or in the event of monopoly ownership of a product, all of which can cause problems if imposed for a long period without controlled rationing, leading to shortages. Further problems can occur if a government sets unrealistic price ceilings, causing business failures, stock crashes, or even economic crises. In unregulated market economies, price ceilings do not exist.

Rent control is a price ceiling on rent. When soldiers returned from World War II and started families (which increased demand for apartments), but stopped receiving military pay, many could not deal with higher rents. The government put in price controls, so soldiers and their families could pay their rents and keep their homes. However, it increased the quantity demand for apartments and lowered the quantity supplied, meaning that available apartments rapidly decreased until none were available for late-comers. Price ceilings create shortages when producers are allowed to abdicate market share or go unsubsidized.

According to professors Niko Määttä and Ari Hyytinen, price ceilings on Helsinki City Hiras apartments are economically highly inefficient. They cause queuing, and discriminate against the handicapped, single parents, elderly, and others not able to queue for days. They cause inefficient allocation, as apartments are not bought by those willing to pay the most for them—and those who get an apartment are unwilling to leave it, even when their family or work situation changes since they can't sell it at what they feel the market price should be. These inefficiencies increase apartment shortage and raise the market price of other apartments.

Uniform wage ceilings were introduced in Australian rules football to address uneven competition. In the Victorian Football League (VFL) a declining competitive balance followed a 1925 expansion that had admitted Footscray, Hawthorn and North Melbourne. The effects on financially-weaker clubs were exacerbated in 1929 by the beginning of the Great Depression. From 1930, a ceiling system, formulated by VFL

administrator George Coulter, stipulated that individual players were to be paid no more than A£3 (approximately A\$243 in 2017) for a regular home-and-away match, that they must also be paid if they were injured, that they could be paid no more than A£12 (approx. A\$975 in 2017) for a finals match, and that these wages could not be augmented with other bonuses or lump-sum payments. The "Coulter law", as it became known, remained a strictly *binding* price ceiling through its history.

During its early years, the Coulter law adversely affected only a minority of players – such as stars and players at wealthier clubs. These individuals experienced, in effect, a drastic cut in wages. For instance, from 1931 the ceiling payment of £3 per game fell below the legal minimum award wage. While, players at the more successful clubs of the day, such as Richmond had previously paid significantly higher average wages, clubs that were struggling financially often could not meet the ceiling under the Coulter law. Clubs with a long-standing amateur ethos became significantly more competitive under the Coulter law – such as Melbourne, which had long attracted and retained players by indirect or non-financial incentives (e.g. finding players employment not related to football). The Coulter law led to at least one VFL star of the 1930s, Ron Todd moving to the rival VFA, because he was dissatisfied with the maximum pay he could receive at Collingwood,

As a result of World War II, the wage for a regular game was halved (to £1/10 shillings) for the 1942–45 seasons. After the war, the ceilings were modified several times in line with inflation. During the 1950s, "Coulter law" was also blamed for shortening the careers of star players such as John Coleman and Brian Gleeson, because it prevented them and their clubs from paying for the private surgery that the players required to continue their careers.

The Coulter law was abolished in 1968. However, in 1987 a club-level salary cap was introduced by the VFL and has been retained by its successor, the Australian Football League (AFL).

On January 10, 2006, a BBC article reported that since 2003, Venezuela President Hugo Chávez had been setting price ceilings on food, and that these price ceilings had caused shortages and hoarding. A January 22, 2008, article from Associated Press stated, "Venezuelan troops are cracking down on the smuggling of food... the National Guard has seized about 750 tons of food... Hugo Chavez ordered the military to keep people from smuggling scarce items like milk... He's also threatened to seize farms and milk plants..." On February 28, 2009, Chávez ordered the military to temporarily seize control of all the rice processing plants in the country and force them to produce at full capacity, which he alleged they had been avoiding in response to the price caps.

On January 3, 2007, an *International Herald Tribune* article reported that Chávez's price ceilings were causing shortages of materials used in the construction industry. According to an April 4, 2008, article from CBS News, Chávez ordered the nationalization of the cement industry in response to the industry exporting its products to receive higher prices outside the country.

There is a substantial body of research showing that under some circumstances price ceilings can, paradoxically, lead to higher prices. The leading explanation is that price ceilings serve to coordinate collusion among suppliers who would otherwise compete on price.

More precisely: Forming a cartel is profitable, because it enables nominally competing firms to act like a monopoly, limiting quantities and raising prices. But forming a cartel is difficult, because it is necessary to agree on quantities and prices, and because each firm will have an incentive to "cheat", that is, to sell more than agreed at by lowering prices. (Antitrust laws make collusion even more difficult because of legal sanctions.) Having a third party such as a regulator announce and enforce a maximum price level can make it easier for the firms to agree on a price and to monitor pricing. We can view the regulatory price as a focal point which is natural for both parties to charge.

One research paper documenting this phenomenon is Knittel and Stangel, which found that in the 1980s in the United States, in states that fixed an interest rate ceiling of 18 percent, firms charged a rate only slightly below the ceiling. But in states without an interest rate ceiling, interest rates were significantly lower. (The authors did not find any difference in costs which could explain the result.) Another example is Sen et al. who found that gasoline prices were higher in states that instituted price ceilings. Another example is the Supreme Court of Pakistan decision regarding fixing a ceiling price for sugar at PKR45/kg. The result was sugar disappeared from the market due to a cartel of sugar producers and the failure of the Pakistani government to maintain supply even in the stores owned by the Government against the large demand of the sugar. The imported sugar required time to reach the country, and it was not feasible to sell at the rate fixed by the Supreme Court of Pakistan. Eventually, the government went for a review petition in the Supreme Court and sought the withdrawal of the earlier decision of the apex court. Eventually, fixation of ceiling price was withdrawn and the market equilibrium was achieved between PKR55-60/kg (Supreme Court of Pakistan decision, 2006–2007).

# Price discovery

The price discovery process (also called price discovery mechanism) is the process of determining the price of an asset in the marketplace through the interactions of buyers and sellers. The futures and options market serve all important functions of price discovery. The individuals with *better information and judgement* participate in these markets to take advantage of such information. When some new information arrives, perhaps some good news about the economy, for instance, the actions of speculators quickly feed their information into the derivatives market causing changes in price of derivatives. These markets are usually the first ones to react as the transaction cost is much lower in these markets than in the spot market. Therefore these markets indicate what is likely to happen and thus assist in better price discovery.

Price discovery is different from valuation. Price discovery process involves buyers and sellers arriving at a transaction price for a specific item at a given time. It involves the following:

- Buyers and seller (number, size, location, and valuation perceptions)
- Market mechanism (bidding and settlement processes, liquidity)
- Available information (amount, timeliness, significance and reliability) including futures and other related markets
- Risk management choices.

"Market" is a broad term that covers buyers, sellers and even sentiment. A single market will have one or more execution venues, which describes where trades are executed. This could be in the street for a street market, or increasingly it could be an electronic or "virtual" venue. Examples of virtual execution venues include NASDAQ, The London Metal Exchange, NYSE, London Stock Exchanges.

After the 2001 Enron scandal, the Sarbanes–Oxley Act tightened accounting rules on the "mark to market" method. Now, only recently-discovered prices may be used, to stop companies from overvaluing their assets. Each night (or reporting period), they have to take a recently-discovered market price, obtained from two or more market observers.

Recent changes in market regulations, since the collapse of Lehman Brothers, have outlined practices that affect the price discovery mechanism . Price discovery is

sensitive to many factors. For a specific execution venue, the following inputs may drive the price discovery mechanism:

- Number of buyers
- Number of sellers
- Number of items for sale in that trading period
- Number of recent sales or purchase price (this is the price as which items traded)
- Current bid price
- Current offer price
- Availability of funding
- Obligations of participants (e.g. regulation, exchange rules, Fund Policy)
- Cost of execution (market fees and tax)
- Cost, Availability and Transparency of pricing information in current and other execution venues.

The cost of execution applies to all markets, and even a street market trader may have to pay to have a stall or invest time walking to a village market. They are not costs of production but a cost incurred to access the execution venue.

Price discovery is a summation of the total market's sentiment at a point in time: a multifaceted, aggregate view on the future. It is how every price in every market is determined. The market price is important as it is a factor in the pricing at off market execution venues and direct and indirect derived products. For example, the price of oil has a direct bearing on the cost of tomatoes in cold climates.

Market rules set the times and duration for trades and settlement. Some markets may not have many participants as the assets being traded do not have much appeal (the formal term is *market interest* in which participants express interest in the underlying asset). Such markets are often called illiquid, for example minor currencies. In illiquid markets, price discovery might take place at a predefined auction time or even whenever participant wants to trade. In such cases there may be no executions for days or months. In such examples there is no price discovery for long periods so the last traded price is used. This can have significant risk as the market for the illiquid may have moved. Another characteristic of illiquid markets is that the cost of trading can be higher due to the lack of competition.

In a dynamic market, the price discovery takes place continuously while items are bought and sold. The price will sometimes fall below the duration average and sometimes exceed the average as a result of the noise due to uncertainties, and transient changes in supply caused by the act of buying and selling: trading. A closed market has no price discovery; the last trade price is all that is known. It is common in



some markets not to use the actual last traded price but some sort of average / weighted mean. This is to prevent price manipulation by the execution of outliers on or at market close. One side effect of this practices is that market close prices are not always available at market close, indeed even after the official market close is published, it is possible for "corrections" to be issued later still.

Usually, price discovery helps find the exact price for a commodity or a share of a company. Price discovery is used in speculative markets which affect traders, manufacturers, exporters, farmers, oil well owners, refineries, governments, consumers, and speculators.

# Inflation

In economics, inflation is a sustained increase in the general price level of goods and services in an economy over a period of time. When the price level rises, each unit of currency buys fewer goods and services; consequently, inflation reflects a reduction in the purchasing power per unit of money – a loss of real value in the medium of exchange and unit of account within the economy. A chief measure of price inflation is the inflation rate, the annualized percentage change in a general price index, usually the consumer price index, over time. The opposite of inflation is deflation.

Inflation affects economies in various positive and negative ways. The negative effects of inflation include an increase in the opportunity cost of holding money, uncertainty over future inflation which may discourage investment and savings, and if inflation were rapid enough, shortages of goods as consumers begin hoarding out of concern that prices will increase in the future. Positive effects include reducing the real burden of public and private debt, keeping nominal interest rates above zero so that central banks can adjust interest rates to stabilize the economy, and reducing unemployment due to nominal wage rigidity.

Economists generally believe that high rates of inflation and hyperinflation are caused by an excessive growth of the money supply. Views on which factors determine low to moderate rates of inflation are more varied. Low or moderate inflation may be attributed to fluctuations in real demand for goods and services, or changes in available supplies such as during scarcities. However, the consensus view is that a long sustained period of inflation is caused by money supply growing faster than the rate of economic growth. Inflation may also lead to an invisible tax in which the value of currency is lowered in contrast with its actual reserve, ultimately leading individuals to hold devalued legal tender.

Today, most economists favor a low and steady rate of inflation. Low (as opposed to zero or negative) inflation reduces the severity of economic recessions by enabling the labor market to adjust more quickly in a downturn, and reduces the risk that a liquidity trap prevents monetary policy from stabilizing the economy. The task of keeping the rate of inflation low and stable is usually given to monetary authorities. Generally, these monetary authorities are the central banks that control monetary policy through the setting of interest rates, through open market operations, and through the setting of banking reserve requirements.

Rapid increases in quantity of the money or in the overall money supply (or debasement of the means of exchange) have occurred in many different societies throughout history, changing with different forms of money used. For instance, when gold was used as currency, the government could collect gold coins, melt them down, mix them with other metals such as silver, copper, or lead, and reissue them at the same nominal value. By diluting the gold with other metals, the government could issue more coins without increasing the amount of gold used to make them. When the cost of each coin is lowered in this way, the government profits from an increase in seigniorage. This practice would increase the money supply but at the same time the relative value of each coin would be lowered. As the relative value of the coins becomes lower, consumers would need to give more coins in exchange for the same goods and services as before. These goods and services would experience a price increase as the value of each coin is reduced.

Song Dynasty China introduced the practice of printing paper money to create fiat currency. During the Mongol Yuan Dynasty, the government spent a great deal of money fighting costly wars, and reacted by printing more money, leading to inflation. Fearing the inflation that plagued the Yuan dynasty, the Ming Dynasty initially rejected the use of paper money, and reverted to using copper coins.

Historically, large infusions of gold or silver into an economy also led to inflation. From the second half of the 15th century to the first half of the 17th, Western Europe experienced a major inflationary cycle referred to as the "price revolution", with prices on average rising perhaps sixfold over 150 years. This was largely caused by the sudden influx of gold and silver from the New World into Habsburg Spain. The silver spread throughout a previously cash-starved Europe and caused widespread inflation. Demographic factors also contributed to upward pressure on prices, with European population growth after depopulation caused by the Black Death pandemic.

By the nineteenth century, economists categorized three separate factors that cause a rise or fall in the price of goods: a change in the *value* or production costs of the good, a change in the *price of money* which then was usually a fluctuation in the commodity price of the metallic content in the currency, and *currency depreciation* resulting from an increased supply of currency relative to the quantity of redeemable metal backing the currency. Following the proliferation of private banknote currency printed during the American Civil War, the term "inflation" started to appear as a direct reference to the *currency depreciation* that occurred as the quantity of redeemable banknotes outstripped the quantity of metal available for their redemption. At that time, the term inflation referred to the devaluation of the currency, and not to a rise in the price of goods.

This relationship between the over-supply of banknotes and a resulting depreciation in their value was noted by earlier classical economists such as David Hume and David Ricardo, who would go on to examine and debate what effect a currency devaluation (later termed *monetary inflation*) has on the price of goods (later termed *price inflation*, and eventually just *inflation*).

The adoption of fiat currency by many countries, from the 18th century onwards, made much larger variations in the supply of money possible. Since then, huge increases in the supply of paper money have taken place in a number of countries, producing hyperinflations – episodes of extreme inflation rates much higher than those observed in earlier periods of commodity money. The hyperinflation in the Weimar Republic of Germany is a notable example. Currently, the hyperinflation in Venezuela is the highest in the world, with an annual inflation rate of around 536.2% as of October 2017.

The term "inflation" originally referred to increases in the amount of money in circulation. However, most economists today use the term "inflation" to refer to a rise in the price level. An increase in the money supply may be called monetary inflation, to distinguish it from rising prices, which may also for clarity be called "price inflation". Economists generally agree that in the long run, inflation is caused by increases in the money supply.

Conceptually, inflation refers to the general trend of prices, not changes in any specific price. For example, if people choose to buy more cucumbers than tomatoes, cucumbers consequently become more expensive and tomatoes cheaper. These changes are not related to inflation, they reflect a shift in tastes. Inflation is related to the value of currency itself. When currency was linked with gold, if new gold deposits were found, the price of gold and the value of currency would fall, and consequently prices of all other goods would become higher.

Other economic concepts related to inflation include: deflation – a fall in the general price level; disinflation – a decrease in the rate of inflation; hyperinflation – an out-of-control inflationary spiral; stagflation – a combination of inflation, slow economic growth and high unemployment; refutation – an attempt to raise the general level of prices to counteract deflationary pressures; and Asset price inflation – a general rise in the prices of financial assets without a corresponding increase in the prices of goods or services.

Since there are many possible measures of the price level, there are many possible measures of price inflation. Most frequently, the term "inflation" refers to a rise in a broad price index representing the overall price level for goods and services in the economy. The Consumer Price Index (CPI), the Personal consumption expenditures

price index (PCEPI) and the GDP deflator are some examples of broad price indices. However, "inflation" may also be used to describe a rising price level within a narrower set of assets, goods or services within the economy, such as commodities (including food, fuel, metals), tangible assets (such as real estate), financial assets (such as stocks, bonds), services (such as entertainment and health care), or labor. Although the values of capital assets are often casually said to "inflate," this should not be confused with inflation as a defined term; a more accurate description for an increase in the value of a capital asset is appreciation. The Reuters-CRB Index (CCI), the Producer Price Index, and Employment Cost Index (ECI) are examples of narrow price indices used to measure price inflation in particular sectors of the economy. Core inflation is a measure of inflation for a subset of consumer prices that excludes food and energy prices, which rise and fall more than other prices in the short term. The Federal Reserve Board pays particular attention to the core inflation rate to get a better estimate of long-term future inflation trends overall.

Other widely used price indices for calculating price inflation include the following:

- Producer price indices (PPIs) which measures average changes in prices received by domestic producers for their output. This differs from the CPI in that price subsidization, profits, and taxes may cause the amount received by the producer to differ from what the consumer paid. There is also typically a delay between an increase in the PPI and any eventual increase in the CPI. Producer price index measures the pressure being put on producers by the costs of their raw materials. This could be "passed on" to consumers, or it could be absorbed by profits, or offset by increasing productivity. In India and the United States, an earlier version of the PPI was called the Wholesale price index.
- Commodity price indices, which measure the price of a selection of commodities. In the present commodity price indices are weighted by the relative importance of the components to the "all in" cost of an employee.
- Core price indices: because food and oil prices can change quickly due to changes in supply and demand conditions in the food and oil markets, it can be difficult to detect the long run trend in price levels when those prices are included. Therefore, most statistical agencies also report a measure of 'core inflation', which removes the most volatile components (such as food and oil) from a broad price index like the CPI. Because core inflation is less affected by short run supply and demand conditions in specific markets, central banks rely on it to better measure the inflationary impact of current monetary policy.

Other common measures of inflation are:

- GDP deflator is a measure of the price of all the goods and services included in gross domestic product (GDP). The US Commerce Department publishes a deflator series for US GDP, defined as its nominal GDP measure divided by its real GDP measure.

#### Issues in measuring

Measuring inflation in an economy requires objective means of differentiating changes in nominal prices on a common set of goods and services, and distinguishing them from those price shifts resulting from changes in value such as volume, quality, or performance. For example, if the price of a 10 oz. can of corn changes from \$0.90 to \$1.00 over the course of a year, with no change in quality, then this price difference represents inflation. This single price change would not, however, represent general inflation in an overall economy. To measure overall inflation, the price change of a large "basket" of representative goods and services is measured. This is the purpose of a price index, which is the combined price of a "basket" of many goods and services. The combined price is the sum of the weighted prices of items in the "basket". A weighted price is calculated by multiplying the unit price of an item by the number of that item the average consumer purchases. Weighted pricing is a necessary means to measuring the impact of individual unit price changes on the economy's overall inflation. The Consumer Price Index, for example, uses data collected by surveying households to determine what proportion of the typical consumer's overall spending is spent on specific goods and services, and weights the average prices of those items accordingly. Those weighted average prices are combined to calculate the overall price. To better relate price changes over time, indexes typically choose a "base year" price and assign it a value of 100. Index prices in subsequent years are then expressed in relation to the base year price. While comparing inflation measures for various periods one has to take into consideration the base effect as well.

Inflation measures are often modified over time, either for the relative weight of goods in the basket, or in the way in which goods and services from the present are compared with goods and services from the past. Over time, adjustments are made to the type of goods and services selected to reflect changes in the sorts of goods and services purchased by 'typical consumers'. New products may be introduced, older products disappear, the quality of existing products may change, and consumer preferences can shift. Both the sorts of goods and services which are included in the "basket" and the weighted price used in inflation measures will be changed over time to keep pace with the changing marketplace .

Inflation numbers are often seasonally adjusted to differentiate expected cyclical cost shifts. For example, home heating costs are expected to rise in colder months, and seasonal adjustments are often used when measuring for inflation to compensate for

cyclical spikes in energy or fuel demand. Inflation numbers may be averaged or otherwise subjected to statistical techniques to remove statistical noise and volatility of individual prices.

When looking at inflation, economic institutions may focus only on certain kinds of prices, or *special indices*, such as the core inflation index which is used by central banks to formulate monetary policy.

Most inflation indices are calculated from weighted averages of selected price changes. This necessarily introduces distortion, and can lead to legitimate disputes about what the true inflation rate is. This problem can be overcome by including all available price changes in the calculation, and then choosing the median value. In some other cases, governments may intentionally report false inflation rates; for instance, during the presidency of Cristina Kirchner (2007–2015) the government of Argentina was criticised for manipulating economic data, such as inflation and GDP figures, for political gain and to reduce payments on its inflation-indexed debt.

Historically, a great deal of economic literature was concerned with the question of what causes inflation and what effect it has. There were different schools of thought as to the causes of inflation. Most can be divided into two broad areas: quality theories of inflation and quantity theories of inflation.

The quality theory of inflation rests on the expectation of a seller accepting currency to be able to exchange that currency at a later time for goods that are desirable as a buyer. The quantity theory of inflation rests on the quantity equation of money that relates the money supply, its velocity, and the nominal value of exchanges. Adam Smith and David Hume proposed a quantity theory of inflation for money, and a quality theory of inflation for production.

Currently, the quantity theory of money is widely accepted as an accurate model of inflation in the long run. Consequently, there is now broad agreement among economists that in the long run, the inflation rate is essentially dependent on the growth rate of money supply relative to the growth of the economy. However, in the short and medium term inflation may be affected by supply and demand pressures in the economy, and influenced by the relative elasticity of wages, prices and interest rates.

The question of whether the short-term effects last long enough to be important is the central topic of debate between monetarist and Keynesian economists. In monetarism prices and wages adjust quickly enough to make other factors merely

marginal behavior on a general trend-line. In the Keynesian view, prices and wages adjust at different rates, and these differences have enough effects on real output to be "long term" in the view of people in an economy.

## **Keynesian view**

Keynesian economics proposes that changes in money supply do not directly affect prices, and that visible inflation is the result of pressures in the economy expressing themselves in prices.

There are three major types of inflation, as part of what Robert J. Gordon calls the "triangle model":

- *Demand-pull inflation* is caused by increases in aggregate demand due to increased private and government spending, etc. Demand inflation encourages economic growth since the excess demand and favourable market conditions will stimulate investment and expansion.
- *Cost-push inflation*, also called "supply shock inflation," is caused by a drop in aggregate supply (potential output). This may be due to natural disasters, or increased prices of inputs. For example, a sudden decrease in the supply of oil, leading to increased oil prices, can cause cost-push inflation. Producers for whom oil is a part of their costs could then pass this on to consumers in the form of increased prices. Another example stems from unexpectedly high insured losses, either legitimate (catastrophes) or fraudulent (which might be particularly prevalent in times of recession).
- Built-in inflation is induced by adaptive expectations, and is often linked to the "price/wage spiral". It involves workers trying to keep their wages up with prices (above the rate of inflation), and firms passing these higher labor costs on to their customers as higher prices, leading to a 'vicious circle'. Built-in inflation reflects events in the past, and so might be seen as hangover inflation.

Demand-pull theory states that inflation accelerates when aggregate demand increases beyond the ability of the economy to produce (its potential output). Hence, any factor that increases aggregate demand can cause inflation. However, in the long run, aggregate demand can be held above productive capacity only by increasing the quantity of money in circulation faster than the real growth rate of the economy. Another (although much less common) cause can be a rapid decline in the *demand* for money, as happened in Europe during the Black Death, or in the Japanese occupied territories just before the defeat of Japan in 1945.

The effect of money on inflation is most obvious when governments finance spending in a crisis, such as a civil war, by printing money excessively. This sometimes leads



to hyperinflation, a condition where prices can double in a month or less. Money supply is also thought to play a major role in determining moderate levels of inflation, although there are differences of opinion on how important it is. For example, Monetarist economists believe that the link is very strong; Keynesian economists, by contrast, typically emphasize the role of aggregate demand in the economy rather than the money supply in determining inflation. That is, for Keynesians, the money supply is only one determinant of aggregate demand.

Some Keynesian economists also disagree with the notion that central banks fully control the money supply, arguing that central banks have little control, since the money supply adapts to the demand for bank credit issued by commercial banks. This is known as the theory of endogenous money, and has been advocated strongly by post-Keynesians as far back as the 1960s. It has today become a central focus of Taylor rule advocates. This position is not universally accepted – banks create money by making loans, but the aggregate volume of these loans diminishes as real interest rates increase. Thus, central banks can influence the money supply by making money cheaper or more expensive, thus increasing or decreasing its production.

A fundamental concept in inflation analysis is the relationship between inflation and unemployment, called the Phillips curve. This model suggests that there is a trade-off between price stability and employment. Therefore, some level of inflation could be considered desirable to minimize unemployment. The Phillips curve model described the U.S. experience well in the 1960s but failed to describe the stagflation experienced in the 1970s. Thus, modern macroeconomics describes inflation using a Phillips curve that is able to shift due to such matters as supply shocks and structural inflation. The former refers to such events like the 1973 oil crisis, while the latter refers to the price/wage spiral and inflationary expectations implying that inflation is the new normal. Thus, the Phillips curve represents only the demand-pull component of the triangle model.

Another concept of note is the potential output (sometimes called the "natural gross domestic product"), a level of GDP, where the economy is at its optimal level of production given institutional and natural constraints. (This level of output corresponds to the Non-Accelerating Inflation Rate of Unemployment, NAIRU, or the "natural" rate of unemployment or the full-employment unemployment rate.) If GDP exceeds its potential (and unemployment is below the NAIRU), the theory says that inflation will *accelerate* as suppliers increase their prices and built-in inflation worsens. If GDP falls below its potential level (and unemployment is above the NAIRU), inflation will *decelerate* as suppliers attempt to fill excess capacity, cutting prices and undermining built-in inflation .

However, one problem with this theory for policy-making purposes is that the exact level of potential output (and of the NAIRU) is generally unknown and tends to change over time. Inflation also seems to act in an asymmetric way, rising more quickly than it falls. Worse, it can change because of policy: for example, high unemployment under British Prime Minister Margaret Thatcher might have led to a rise in the NAIRU (and a fall in potential) because many of the unemployed found themselves as structurally unemployed, unable to find jobs that fit their skills. A rise in structural unemployment implies that a smaller percentage of the labor force can find jobs at the NAIRU, where the economy avoids crossing the threshold into the realm of accelerating inflation.

A connection between inflation and unemployment has been drawn since the emergence of large scale unemployment in the 19th century, and connections continue to be drawn today. However, the unemployment rate generally only affects inflation in the short-term but not the long-term. In the long term, the velocity of money is far more predictive of inflation than low unemployment.

In Marxian economics, the unemployed serve as a reserve army of labor, which restrain wage inflation. In the 20th century, similar concepts in Keynesian economics include the NAIRU and the Phillips curve.

Rational expectations theory holds that economic actors look rationally into the future when trying to maximize their well-being, and do not respond solely to immediate opportunity costs and pressures. In this view, while generally grounded in monetarism, future expectations and strategies are important for inflation as well.

A core assertion of rational expectations theory is that actors will seek to "head off" central-bank decisions by acting in ways that fulfill predictions of higher inflation. This means that central banks must establish their credibility in fighting inflation, or economic actors will make bets that the central bank will expand the money supply rapidly enough to prevent recession, even at the expense of exacerbating inflation. Thus, if a central bank has a reputation as being "soft" on inflation, when it announces a new policy of fighting inflation with restrictive monetary growth economic agents will not believe that the policy will persist; their inflationary expectations will remain high, and so will inflation. On the other hand, if the central bank has a reputation of being "tough" on inflation, then such a policy announcement will be believed and inflationary expectations will come down rapidly, thus allowing inflation itself to come down rapidly with minimal economic disruption.

The Austrian School stresses that inflation is not uniform over all assets, goods, and services. Inflation depends on differences in markets and on where newly created money and credit enter the economy. Ludwig von Mises said that inflation should

refer to an increase in the quantity of money that is not offset by a corresponding increase in the need for money, and that price inflation will necessarily follow.

The real bills doctrine asserts that banks should issue their money in exchange for short-term real bills of adequate value. As long as banks only issue a dollar in exchange for assets worth at least a dollar, the issuing bank's assets will naturally move in step with its issuance of money, and the money will hold its value. Should the bank fail to get or maintain assets of adequate value, then the bank's money will lose value, just as any financial security will lose value if its asset backing diminishes. The real bills doctrine (also known as the backing theory) thus asserts that inflation results when money outruns its issuer's assets. The quantity theory of money, in contrast, claims that inflation results when money outruns the economy's production of goods.

Currency and banking schools of economics argue the RBD, that banks should also be able to issue currency against bills of trading, which is "real bills" that they buy from merchants. This theory was important in the 19th century in debates between "Banking" and "Currency" schools of monetary soundness, and in the formation of the Federal Reserve. In the wake of the collapse of the international gold standard post 1913, and the move towards deficit financing of government, RBD has remained a minor topic, primarily of interest in limited contexts, such as currency boards. It is generally held in ill repute today, with Frederic Mishkin, a governor of the Federal Reserve going so far as to say it had been "completely discredited."

The debate between currency, or quantity theory, and the banking schools during the 19th century prefigures current questions about the credibility of money in the present. In the 19th century the banking schools had greater influence in policy in the United States and Great Britain, while the currency schools had more influence "on the continent", that is in non-British countries, particularly in the Latin Monetary Union and the earlier Scandinavia monetary union.

## **General Effects**

An increase in the general level of prices implies a decrease in the purchasing power of the currency. That is, when the general level of prices rise, each monetary unit buys fewer goods and services. The effect of inflation is not distributed evenly in the economy, and as a consequence there are hidden costs to some and benefits to others from this decrease in the purchasing power of money. For example, with inflation, those segments in society which own physical assets, such as property, stock etc., benefit from the price/value of their holdings going up, when those who seek to acquire them will need to pay more for them. Their ability to do so will depend on the

degree to which their income is fixed. For example, increases in payments to workers and pensioners often lag behind inflation, and for some people income is fixed. Also, individuals or institutions with cash assets will experience a decline in the purchasing power of the cash. Increases in the price level (inflation) erode the real value of money (the functional currency) and other items with an underlying monetary nature.

Debtors who have debts with a fixed nominal rate of interest will see a reduction in the "real" interest rate as the inflation rate rises. The real interest on a loan is the nominal rate minus the inflation rate. The formula  $R = N - I$  approximates the correct answer as long as both the nominal interest rate and the inflation rate are small. The correct equation is  $r = n/i$  where  $r$ ,  $n$  and  $i$  are expressed as ratios (e.g. 1.2 for +20%, 0.8 for -20%). As an example, when the inflation rate is 3%, a loan with a nominal interest rate of 5% would have a real interest rate of approximately 2% (in fact, it's 1.94%). Any unexpected increase in the inflation rate would decrease the real interest rate. Banks and other lenders adjust for this inflation risk either by including an inflation risk premium to fixed interest rate loans, or lending at an adjustable rate.

## Negative Effects

High or unpredictable inflation rates are regarded as harmful to an overall economy. They add inefficiencies in the market, and make it difficult for companies to budget or plan long-term. Inflation can act as a drag on productivity as companies are forced to shift resources away from products and services to focus on profit and losses from currency inflation. Uncertainty about the future purchasing power of money discourages investment and saving. Inflation can also impose hidden tax increases. For instance, inflated earnings push taxpayers into higher income tax rates unless the tax brackets are indexed to inflation.

With high inflation, purchasing power is redistributed from those on fixed nominal incomes, such as some pensioners whose pensions are not indexed to the price level, towards those with variable incomes whose earnings may better keep pace with the inflation. This redistribution of purchasing power will also occur between international trading partners. Where fixed exchange rates are imposed, higher inflation in one economy than another will cause the first economy's exports to become more expensive and affect the balance of trade. There can also be negative impacts to trade from an increased instability in currency exchange prices caused by unpredictable inflation.

## Cost-push inflation

High inflation can prompt employees to demand rapid wage increases, to keep up with consumer prices. In the cost-push theory of inflation, rising wages in

turn can help fuel inflation. In the case of collective bargaining, wage growth will be set as a function of inflationary expectations, which will be higher when inflation is high. This can cause a wage spiral. In a sense, inflation begets further inflationary expectations, which beget further inflation.

### Hoarding

People buy durable and/or non-perishable commodities and other goods as stores of wealth, to avoid the losses expected from the declining purchasing power of money, creating shortages of the hoarded goods.

### Social unrest and revolts

Inflation can lead to massive demonstrations and revolutions. For example, inflation and in particular food inflation is considered as one of the main reasons that caused the 2010–11 Tunisian revolution and the 2011 Egyptian revolution, according to many observers including Robert Zoellick, president of the World Bank. Tunisian president Zine El Abidine Ben Ali was ousted, Egyptian President Hosni Mubarak was also ousted after only 18 days of demonstrations, and protests soon spread in many countries of North Africa and Middle East.

### Hyperinflation

If inflation becomes too high, it can cause people to severely curtail their use of the currency, leading to an acceleration in the inflation rate. High and accelerating inflation grossly interferes with the normal workings of the economy, hurting its ability to supply goods. Hyperinflation can lead to the abandonment of the use of the country's currency (for example as in North Korea) leading to the adoption of an external currency (dollarization).

### Allocative efficiency

A change in the supply or demand for a good will normally cause its relative price to change, signaling the buyers and sellers that they should re-allocate resources in response to the new market conditions. But when prices are constantly changing due to inflation, price changes due to genuine relative price signals are difficult to distinguish from price changes due to general inflation,

so agents are slow to respond to them. The result is a loss of allocative efficiency.

#### Shoe leather cost

High inflation increases the opportunity cost of holding cash balances and can induce people to hold a greater portion of their assets in interest paying accounts. However, since cash is still needed to carry out transactions this means that more "trips to the bank" are necessary to make withdrawals, proverbially wearing out the "shoe leather" with each trip.

#### Menu costs

With high inflation, firms must change their prices often to keep up with economy-wide changes. But often changing prices is itself a costly activity whether explicitly, as with the need to print new menus, or implicitly, as with the extra time and effort needed to change prices constantly.

### **Positive Effects**

#### Labour-market adjustments

Nominal wages are slow to adjust downwards. This can lead to prolonged disequilibrium and high unemployment in the labor market. Since inflation allows real wages to fall even if nominal wages are kept constant, moderate inflation enables labor markets to reach equilibrium faster.

#### Room to maneuver

The primary tools for controlling the money supply are the ability to set the discount rate, the rate at which banks can borrow from the central bank, and open market operations, which are the central bank's interventions into the bonds market with the aim of affecting the nominal interest rate. If an economy finds itself in a recession with already low, or even zero, nominal interest rates, then the bank cannot cut these rates further (since negative nominal interest rates are impossible) to stimulate the economy – this situation is known as a liquidity trap.

#### Mundell–Tobin effect

The Nobel laureate Robert Mundell noted that moderate inflation would induce savers to substitute lending for some money holding as a means to finance future spending. That substitution would cause market clearing real interest rates to fall. The lower real rate of interest would induce more borrowing to finance investment. In a similar vein, Nobel laureate James Tobin noted that such inflation would cause businesses to substitute investment in physical capital (plant, equipment, and inventories) for money balances in their asset portfolios. That substitution would mean choosing the making of investments with lower rates of real return. (The rates of return are lower because the investments with higher rates of return were already being made before.) The two related effects are known as the Mundell–Tobin effect. Unless the economy is already overinvesting according to models of economic growth theory, that extra investment resulting from the effect would be seen as positive.

#### Instability with deflation

Economist S.C. Tsiang noted that once substantial deflation is expected, two important effects will appear; both a result of money holding substituting for lending as a vehicle for saving. The first was that continually falling prices and the resulting incentive to hoard money will cause instability resulting from the likely increasing fear, while money hoards grow in value, that the value of those hoards are at risk, as people realize that a movement to trade those money hoards for real goods and assets will quickly drive those prices up. Any movement to spend those hoards "once started would become a tremendous avalanche, which could rampage for a long time before it would spend itself." Thus, a regime of long-term deflation is likely to be interrupted by periodic spikes of rapid inflation and consequent real economic disruptions. Moderate and stable inflation would avoid such a seesawing of price movements.

#### Financial market inefficiency with deflation

The second effect noted by Tsiang is that when savers have substituted money holding for lending on financial markets, the role of those markets in channeling savings into investment is undermined. With nominal interest rates driven to zero, or near zero, from the competition with a high return money asset, there would be no price mechanism in whatever is left of those markets. With financial markets effectively euthanized, the remaining goods and

physical asset prices would move in perverse directions. For example, an increased desire to save could not push interest rates further down (and thereby stimulate investment) but would instead cause additional money hoarding, driving consumer prices further down and making investment in consumer goods production thereby less attractive. Moderate inflation, once its expectation is incorporated into nominal interest rates, would give those interest rates room to go both up and down in response to shifting investment opportunities, or savers' preferences, and thus allow financial markets to function in a more normal fashion.

Governments and central banks primarily use monetary policy to control inflation. Central banks such as the U.S. Federal Reserve increase the interest rate, slow or stop the growth of the money supply, and reduce the money supply. Some banks have a symmetrical inflation target while others only control inflation when it rises above a target, whether express or implied.

Most central banks are tasked with keeping their inter-bank lending rates at low levels, normally to a target annual rate of about 2% to 3%, and within a targeted annual inflation range of about 2% to 6%. Central bankers target a low inflation rate because they believe deflation endangers the economy.

Higher interest rates reduce the amount of money because fewer people seek loans, and loans are usually made with new money. When banks make loans, they usually first create new money, then lend it. A central bank usually creates money lent to a national government. Therefore, when a person pays back a loan, the bank destroys the money and the quantity of money falls. In the early 1980s, when the federal funds rate exceeded 15 percent, the quantity of Federal Reserve dollars fell 8.1 percent, from US\$8.6 trillion down to \$7.9 trillion.

Monetarists emphasize a steady growth rate of money and use monetary policy to control inflation by slowing the rise in the money supply. Keynesians emphasize reducing aggregate demand during economic expansions and increasing demand during recessions to keep inflation stable. Control of aggregate demand can be achieved using both monetary policy and fiscal policy (increased taxation or reduced government spending to reduce demand).

### Fixed exchange rates

Under a fixed exchange rate currency regime, a country's currency is tied in value to another single currency or to a basket of other currencies (or sometimes to another



measure of value, such as gold). A fixed exchange rate is usually used to stabilize the value of a currency, vis-a-vis the currency it is pegged to. It can also be used as a means to control inflation. However, as the value of the reference currency rises and falls, so does the currency pegged to it. This essentially means that the inflation rate in the fixed exchange rate country is determined by the inflation rate of the country the currency is pegged to. In addition, a fixed exchange rate prevents a government from using domestic monetary policy to achieve macroeconomic stability.

Under the Bretton Woods agreement, most countries around the world had currencies that were fixed to the U.S. dollar. This limited inflation in those countries, but also exposed them to the danger of speculative attacks. After the Bretton Woods agreement broke down in the early 1970s, countries gradually turned to floating exchange rates. However, in the later part of the 20th century, some countries reverted to a fixed exchange rate as part of an attempt to control inflation. This policy of using a fixed exchange rate to control inflation was used in many countries in South America in the later part of the 20th century .

## **Gold standard**

The gold standard is a monetary system in which a region's common media of exchange are paper notes that are normally freely convertible into pre-set, fixed quantities of gold. The standard specifies how the gold backing would be implemented, including the amount of specie per currency unit. The currency itself has no *innate value*, but is accepted by traders because it can be redeemed for the equivalent specie. A U.S. silver certificate, for example, could be redeemed for an actual piece of silver.

The gold standard was partially abandoned via the international adoption of the Bretton Woods system. Under this system all other major currencies were tied at fixed rates to the dollar, which itself was tied to gold at the rate of US\$35 per ounce. The Bretton Woods system broke down in 1971, causing most countries to switch to fiat money – money backed only by the laws of the country.

Under a gold standard, the long term rate of inflation (or deflation) would be determined by the growth rate of the supply of gold relative to total output. Critics argue that this will cause arbitrary fluctuations in the inflation rate, and that monetary policy would essentially be determined by gold mining.

## Wage and price controls

Another method attempted in the past have been wage and price controls ("incomes policies"). Wage and price controls have been successful in wartime environments in combination with rationing. However, their use in other contexts is far more mixed. Notable failures of their use include the 1972 imposition of wage and price controls by Richard Nixon. More successful examples include the Prices and Incomes Accord in Australia and the Wassenaar Agreement in the Netherlands.

In general, wage and price controls are regarded as a temporary and exceptional measure, only effective when coupled with policies designed to reduce the underlying causes of inflation during the wage and price control regime, for example, winning the war being fought. They often have perverse effects, due to the distorted signals they send to the market. Artificially low prices often cause rationing and shortages and discourage future investment, resulting in yet further shortages. The usual economic analysis is that any product or service that is under-priced is overconsumed. For example, if the official price of bread is too low, there will be too little bread at official prices, and too little investment in bread making by the market to satisfy future needs, thereby exacerbating the problem in the long term.

Temporary controls may *complement* a recession as a way to fight inflation: the controls make the recession more efficient as a way to fight inflation (reducing the need to increase unemployment), while the recession prevents the kinds of distortions that controls cause when demand is high. However, in general the advice of economists is not to impose price controls but to liberalize prices by assuming that the economy will adjust and abandon unprofitable economic activity. The lower activity will place fewer demands on whatever commodities were driving inflation, whether labor or resources, and inflation will fall with total economic output. This often produces a severe recession, as productive capacity is reallocated and is thus often very unpopular with the people whose livelihoods are destroyed.

If economic growth matches the growth of the money supply, inflation should not occur when all else is equal. A large variety of factors can affect the rate of both. For example, investment in market production, infrastructure, education, and preventive health care can all grow an economy in greater amounts than the investment spending.

The real purchasing power of fixed payments is eroded by inflation unless they are inflation-adjusted to keep their real values constant. In many countries, employment contracts, pension benefits, and government entitlements (such as social security) are tied to a cost-of-living index, typically to the consumer price index. A *cost-of-living*

*adjustment* (COLA) adjusts salaries based on changes in a cost-of-living index. It does not control inflation, but rather seeks to mitigate the consequences of inflation for those on fixed incomes. Salaries are typically adjusted annually in low inflation economies. During hyperinflation they are adjusted more often. They may also be tied to a cost-of-living index that varies by geographic location if the employee moves.

Annual escalation clauses in employment contracts can specify retroactive or future percentage increases in worker pay which are not tied to any index. These negotiated increases in pay are colloquially referred to as cost-of-living adjustments ("COLAs") or cost-of-living increases because of their similarity to increases tied to externally determined indexes.

### Inflation expectations

Inflation expectations, inflationary expectations, or expected inflation is the rate of inflation that is anticipated for some period of time in the foreseeable future. There are two major approaches to modeling the formation of inflation expectations. Adaptive expectations models them as a weighted average of what was expected one period earlier and the actual rate of inflation that most recently occurred. Rational expectations models them as unbiased, in the sense that the expected inflation rate is not systematically above or systematically below the inflation rate that actually occurs.

A long-standing survey of inflation expectations is the University of Michigan survey.

Inflation expectations affect the economy in several ways. They are more or less built into nominal interest rates, so that a rise (or fall) in the expected inflation rate will typically result in a rise (or fall) in nominal interest rates, giving a smaller effect if any on real interest rates. In addition, higher expected inflation tends to be built into the rate of wage increases, giving a smaller effect if any on the changes in real wages. Moreover, the response of inflationary expectations to monetary policy can influence the division of the effects of policy between inflation and unemployment

# Asset

In financial accounting, an asset is an economic resource. Anything tangible or intangible that can be owned or controlled to produce value and that is held by a company to produce positive economic value is an asset. Simply stated, assets represent value of ownership that can be converted into cash .

The balance sheet of a firm records the monetary value of the assets owned by that firm. It covers money and other valuables belonging to an individual or to a business. One can classify assets into two major asset classes: tangible assets and intangible assets. Tangible assets contain various subclasses, including current assets and fixed assets. Current assets include inventory, while fixed assets include such items as buildings and equipment.

Intangible assets are nonphysical resources and rights that have a value to the firm because they give the firm some kind of advantage in the marketplace. Examples of intangible assets include goodwill, copyrights, trademarks, patents and computer programs, and financial assets, including such items as accounts receivable, bonds and stocks.

An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.

One of the most widely accepted accounting definitions of asset is the one used by the International Accounting Standards Board. The following is a quotation from the IFRS Framework: "An asset is a resource controlled by the enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise."

This means that:

- The probable present benefit involve a capacity, singly or in combination with other assets, in the case of profit oriented enterprises, to contribute directly or indirectly to future net cash flows, and, in the case of nonprofit organizations, to provide services;
- The entity can control access to the benefit;
- The transaction or event giving rise to the entity's right to, or control of, the benefit has already occurred.

Employees are not considered assets like machinery is, even though they can generate future economic benefits. This is because an entity does not have sufficient control over its employees to satisfy the Framework's definition of an asset. Resources that are expected to yield benefits only for a short time can also be considered not to be assets, for example in the USA the 12 month rule excludes items with a useful life of less than a year.

Similarly, in economics an asset is any form in which wealth can be held.

There is a growing analytical interest in assets and asset forms in other social sciences too, especially in terms of how a variety of things (e.g. personality, personal data, ecosystems, etc.) can be turned into an asset.

In the financial accounting sense of the term, it is not necessary to be able to legally enforce the asset's benefit for qualifying a resource as being an asset, provided the entity can control its use by other means.

The accounting equation is the mathematical structure of the balance sheet. It relates assets, liabilities, and owner's equity:

$$\begin{aligned}\text{Assets} &= \text{Liabilities} + \text{Capital (which for a corporation equals owner's equity)} \\ \text{Liabilities} &= \text{Assets} - \text{Capital} \\ \text{Equity} &= \text{Assets} - \text{Liabilities}\end{aligned}$$

Assets are listed on the balance sheet. On a company's balance sheet certain divisions are required by generally accepted accounting principles (GAAP), which vary from country to country. Assets can be divided into e.g. current assets and fixed assets, often with further subdivisions such as cash, receivables and inventory.

Assets are formally controlled and managed within larger organizations via the use of asset tracking tools. These monitor the purchasing, upgrading, servicing, licensing, disposal etc., of both physical and non-physical assets.

Current assets are cash and other assets expected to be converted to cash or consumed either in a year or in the operating cycle (whichever is longer), without disturbing the normal operations of a business. These assets are continually turned over in the course of a business during normal business activity. There are 5 major items included into current assets:

1. Cash and cash equivalents – it is the most liquid asset, which includes currency, deposit accounts, and negotiable instruments (e.g., money orders, cheque, bank drafts).

2. Short-term investments – include securities bought and held for sale in the near future to generate income on short-term price differences (trading securities).
3. Receivables – usually reported as net of allowance for non-collectable accounts.
4. Inventory – trading these assets is a normal business of a company. The inventory value reported on the balance sheet is usually the historical cost or fair market value, whichever is lower. This is known as the "lower of cost or market" rule.
5. Prepaid expenses – these are expenses paid in cash and recorded as assets before they are used or consumed (common examples are insurance or office supplies).

Marketable securities: Securities that can be converted into cash quickly at a reasonable price.

The phrase *net current assets* (also called *working capital*) is often used and refers to the total of current assets less the total of current liabilities.

Often referred to simply as "investments". Long-term investments are to be held for many years and are not intended to be disposed of in the near future. This group usually consists of three types of investments:

1. Investments in securities such as bonds, common stock, or long-term notes.
2. Investments in fixed assets not used in operations (e.g., land held for sale).
3. Investments in special funds (e.g. sinking funds or pension funds).

Different forms of insurance may also be treated as long term investments.

Also referred to as PPE (property, plant, and equipment), these are purchased for continued and long-term use in earning profit in a business. This group includes as an asset land, buildings, machinery, furniture, tools, IT equipment, e.g., laptops, and certain wasting resources e.g., timberland and minerals. They are written off against profits over their anticipated life by charging depreciation expenses (with exception of land assets). Accumulated depreciation is shown in the face of the balance sheet or in the notes. An asset is an important factor in a balance sheet.

These are also called capital assets in management accounting.

Intangible assets lack of physical substance and usually are very hard to evaluate. They include patents, copyrights, franchises, goodwill, trademarks, trade names, etc. These assets are (according to US GAAP) amortized to expense over 5 to 40 years with the exception of goodwill.

Websites are treated differently in different countries and may fall under either tangible or intangible assets.

Tangible assets are those that have a physical substance, such as currencies, buildings, real estate, vehicles, inventories, equipment, art collections, precious metals, rare-earth metals, Industrial metals, and crops.

Depreciation is applied to tangible assets when those assets have an anticipated lifespan of more than one year. This process of depreciation is used instead of allocating the entire expense to one year.

Tangible assets such as art, furniture, stamps, gold, wine, toys and books have become recognized as an asset class in their own right and many high-net-worth individuals will seek to include these tangible assets as part of their overall asset portfolio. This has created a need for tangible asset managers.

# Check

A check or cheque is a document that orders a bank to pay a specific amount of money from a person's account to the person in whose name the cheque has been issued. The person writing the cheque, known as the *drawer*, has a transaction banking account (often called a current, cheque, chequing or checking account) where their money is held. The drawer writes the various details including the monetary amount, date, and a payee on the cheque, and signs it, ordering their bank, known as the *drawee*, to pay that person or company the amount of money stated.

Cheques are a type of bill of exchange and were developed as a way to make payments without the need to carry large amounts of money. Paper money evolved from promissory notes, another form of negotiable instrument similar to cheques in that they were originally a written order to pay the given amount to whoever had it in their possession .

A cheque is a negotiable instrument instructing a financial institution to pay a specific amount of a specific currency from a specified transactional account held in the drawer's name with that institution. Both the drawer and payee may be natural persons or legal entities. Cheques are *order instruments*, and are not in general payable simply to the bearer as bearer instruments are, but must be paid to the payee. In some countries, such as the US, the payee may endorse the cheque, allowing them to specify a third party to whom it should be paid.

Although forms of cheques have been in use since ancient times and at least since the 9th century, it was during the 20th century that cheques became a highly popular non-cash method for making payments and the usage of cheques peaked. By the second half of the 20th century, as cheque processing became automated, billions of cheques were issued annually; these volumes peaked in or around the early 1990s. Since then cheque usage has fallen, being partly replaced by electronic payment systems. In an increasing number of countries cheques have either become a marginal payment system or have been completely phased out.

The spellings *check*, *cheque*, and *cheque* were used interchangeably from the 17th century until the 20th century. However, since the 19th century, the spelling *cheque* (from the French word *chèque*) has become standard for the financial



instrument in the Commonwealth and Ireland, while *check* is used only for other meanings, thus distinguishing the two definitions in writing.

In American English, the usual spelling for both is *check*.

Etymological dictionaries attribute the financial meaning to come from "a check against forgery," with the use of "check" to mean "control" stemming from a check in chess, a term which came into English through French, Latin, Arabic and ultimately from the Persian word "shah" or "king".

The cheque had its origins in the ancient banking system, in which bankers would issue orders at the request of their customers, to pay money to identified payees. Such an order was referred to as a *bill of exchange*. The use of bills of exchange facilitated trade by eliminating the need for merchants to carry large quantities of currency (for example, gold) to purchase goods and services.

The ancient Romans are believed to have used an early form of cheque known as *praescriptiones* in the 1st century BCE.

Muslim traders are known to have used the cheque or *ṣakk* system since the time of Harun al-Rashid (9th century) of the Abbasid Caliphate. Transporting a paper *sakk* was more secure than transporting money. In the 9th century, a merchant in country A could cash a *saqq* drawn on his bank in country B.

In the 13th century in Venice the *bill of exchange* was developed as a legal device to allow international trade without the need to carry large amounts of gold and silver. Their use subsequently spread to other European countries.

In the early 1500s in the Dutch Republic, to protect large accumulations of cash, people began depositing their money with "cashiers". These cashiers held the money for a fee. Competition drove cashiers to offer additional services including paying money to any person bearing a written order from a depositor to do so. They kept the note as proof of payment. This concept went on to spread to England and elsewhere.

By the 17th century, bills of exchange were being used for domestic payments in England. Cheques, a type of bill of exchange, then began to evolve. Initially they were called *drawn notes*, because they enabled a customer to draw on the funds that he or she had in the account with a bank and required immediate payment. These were handwritten, and one of the earliest known still to be in existence was drawn on Messrs Morris and Clayton, scriveners and bankers based in the City of London, and dated 16 February 1659.

In 1717, the Bank of England pioneered the first use of a pre-printed form. These forms were printed on "cheque paper" to prevent fraud, and customers had to attend in person and obtain a numbered form from the cashier. Once written, the cheque was brought back to the bank for settlement. The suppression of banknotes in eighteenth-century England further promoted the use of cheques.

Until about 1770, an informal exchange of cheques took place between London banks. Clerks of each bank visited all the other banks to exchange cheques, whilst keeping a tally of balances between them until they settled with each other. Daily cheque clearing began around 1770 when the bank clerks met at the Five Bells, a tavern in Lombard Street in the City of London, to exchange all their cheques in one place and settle the balances in cash. This was the first bankers' clearing house.

In America, the Bank of New York, after its establishment by Alexander Hamilton in 1784, began issuing cheques. The oldest surviving example of a complete American chequebook from the 1790s was discovered by a family in New Jersey.

It is thought that the Commercial Bank of Scotland was the first bank to personalize its customers' cheques, in 1811, by printing the name of the account holder vertically along the left-hand edge. In 1830 the Bank of England introduced books of 50, 100, and 200 forms and counterparts, bound or stitched. These *cheque books* became a common format for the distribution of cheques to bank customers.

In the late 19th century, several countries formalized laws regarding cheques. The UK passed the Bills of Exchange Act in 1882, and India passed the Negotiable Instruments Act (NI Act) 1881; which both covered cheques.

In 1931 an attempt was made to simplify the international use of cheques by the Geneva Convention on the Unification of the Law Relating to Cheques. Many European and South American states as well as Japan joined the convention. However, countries including the US and members of the British Commonwealth did not participate and so it remained very difficult for cheques to be used across country borders.

In 1959 a standard for machine-readable characters (MICR) was agreed and patented in the US for use with cheques. This opened the way for the first automated reader/sorting machines for clearing cheques. As automation increased, the following years saw a dramatic change in the way in which cheques were handled and processed. Cheque volumes continued to grow; in the late 20th century, cheques were the most popular non-cash method for making payments, with billions of them processed each year. Most countries saw cheque volumes peak in the late 1980s or

early 1990s, after which electronic payment methods became more popular and the use of cheques declined.

In 1969 cheque guarantee cards were introduced in several countries, allowing a retailer to confirm that a cheque would be honoured when used at a point of sale. The drawer would sign the cheque in front of the retailer, who would compare the signature to the signature on the card and then write the cheque-guarantee-card number on the back of the cheque. Such cards were generally phased out and replaced by debit cards, starting in the mid-1990s.

From the mid-1990s, many countries enacted laws to allow for cheque truncation, in which a physical cheque is converted into electronic form for transmission to the paying bank or clearing-house. This eliminates the cumbersome physical presentation and saves time and processing costs.

In 2002, the Eurocheque system was phased out and replaced with domestic clearing systems. Old eurocheques could still be used, but they were now processed by national clearing systems. At that time, a number of countries took the opportunity to phase out the use of cheques altogether. As of 2010, many countries have either phased out the use of cheques altogether or signalled that they would do so in the future.

Parts of a cheque based on a UK example

1. drawee, the financial institution where the cheque can be presented for payment
2. payee
3. date of issue
4. amount of currency
5. drawer, the person or entity making the cheque
6. signature of drawer
7. Machine readable routing and account information

The four main items on a cheque are

- Drawer, the person or entity who makes the cheque
- Payee, the recipient of the money
- Drawee, the bank or other financial institution where the cheque can be presented for payment
- Amount, the currency amount

As cheque usage increased during the 19th and 20th centuries additional items were added to increase security or to make processing easier for the bank or financial

institution. A signature of the drawer was required to authorize the cheque and this is the main way to authenticate the cheque. Second it became customary to write the amount in words as well as in numbers to avoid mistakes and make it harder to fraudulently alter the amount after the cheque had been written. It is not a legal requirement to write down the amount in words, although some banks will refuse to accept cheques that do not have the amount in both numbers and words.

An issue date was added, and cheques may not be valid a certain amount of time after issue. In the US and Canada a cheque is typically valid for six months after the date of issue, after which it is a *stale-dated cheque*, but this depends on where the cheque is drawn; in Australia this is typically fifteen months. A cheque that has an issue date in the future, a post-dated cheque, may not be able to be presented until that date has passed, writing a post dated cheque may simply be ignored or is illegal in some countries. Conversely, an antedated cheque has an issue date in the past.

A cheque number was added and cheque books were issued so that cheque numbers were sequential. This allowed for some basic fraud detection by banks and made sure one cheque was not presented twice.

In some countries such as the US, cheques contain a memo line where the purpose of the cheque can be indicated as a convenience without affecting the official parts of the cheque. In the United Kingdom this is not available and such notes are sometimes written on the reverse side of the cheque.

In the US, at the top (when cheque oriented vertically) of the reverse side of the cheque, there are usually one or more blank lines labelled something like "Endorse here".

Starting in the 1960s machine readable routing and account information was added to the bottom of cheques in MICR format. This allowed automated sorting and routing of cheques between banks and led to automated central clearing facilities. The information provided at the bottom of the cheque is country specific and is driven by each country's cheque clearing system. This meant that the payee no longer had to go to the bank that issued the cheque, instead they could deposit it at their own bank or any other banks and the cheque would be routed back to the originating bank and funds transferred to their own bank account.

In the US, the bottom 5/8" of the cheque is a keep out zone reserved for MICR characters only which should not be intruded upon by handwriting. One must be especially careful of lower case descenders when filling out the signature and memo lines which are often at the bottom of the cheque in close proximity. It is advisable to treat the signature and memo lines as boundaries rather than baselines and sign above

them. Intrusion into the MICR area can cause problems when the cheque runs through the clearinghouse, requiring someone to print an MICR cheque correction strip and glue it to the cheque. Many new ATMs do not use deposit envelopes and actually scan the cheque at the time it is deposited and will reject cheques due to handwriting incursion which interferes with reading the MICR. This can cause considerable inconvenience as the depositor may have to wait days for the bank to be open and may have difficulty getting to the bank even when they are open; this can delay the availability of the portion of a deposit which their bank makes available immediately as well as the balance of the deposit. Terms of service for many mobile (cell phone camera) deposits also require the MICR section to be readable. Not all of the MICR characters have been printed at the time you manually fill in the cheque as additional characters will be printed later to encode the amount; thus your sloppy signature could obscure characters that you didn't realize would later be printed there. Since MICR characters are no longer necessarily printed in magnetic ink and will be scanned by optical rather than magnetic means, the readers will be unable to distinguish pen ink from pre-printed magnetic ink; these changes allow cheques to be printed on ordinary home and office printers without requiring pre-printed cheque forms, allow ATM deposit capture, allow mobile deposits, and facilitate electronic copies of cheques.

For additional protection, a cheque can be crossed, which restricts the use of the cheque so that the funds must be paid into a bank account. The format and wording varies from country to country, but generally two parallel lines may be placed either vertically across the cheque or in the top left hand corner. In addition the words 'or bearer' must not be used, or if pre-printed on the cheque must be crossed out on the payee line. If the cheque is crossed with the words 'Account Payee' or similar then the cheque can only be paid into the bank account of the person initially named as the payee, thus it cannot be endorsed to a different payee.

Cheques sometimes include additional documents. A page in a chequebook may consist of both the cheque itself and a stub or *counterfoil* – when the cheque is written, only the cheque itself is detached, and the stub is retained in the chequebook as a record of the cheque. Alternatively, cheques may be recorded with carbon paper behind each cheque, in ledger sheets between cheques or at the back of a chequebook, or in a completely separate transaction register that comes with a chequebook.

When a cheque is mailed, a separate letter or "remittance advice" may be attached to inform the recipient of the purpose of the cheque – formally, which account receivable to credit the funds to. This is frequently done formally using a provided slip when paying a bill, or informally via a letter when sending an ad hoc cheque.

Parties to regular cheques generally include a *drawer*, the depositor writing a cheque; a *drawee*, the financial institution where the cheque can be presented for payment; and

a *payee*, the entity to whom the drawer issues the cheque. The drawer *drafts* or *draws* a cheque, which is also called *cutting a cheque*, especially in the US. There may also be a *beneficiary*—for example, in depositing a cheque with a custodian of a brokerage account, the payee will be the custodian, but the cheque may be marked "F/B/O" ("for the benefit of") the beneficiary.

Ultimately, there is also at least one *endorsee* which would typically be the financial institution servicing the payee's account, or in some circumstances may be a third party to whom the payee owes or wishes to give money.

A payee that accepts a cheque will typically deposit it in an account at the payee's bank, and have the bank process the cheque. In some cases, the payee will take the cheque to a branch of the drawee bank, and cash the cheque there. If a cheque is refused at the drawee bank (or the drawee bank returns the cheque to the bank that it was deposited at) because there are insufficient funds for the cheque to clear, it is said that the cheque has been *dishonoured*. Once a cheque is approved and all appropriate accounts involved have been credited, the cheque is stamped with some kind of cancellation mark, such as a "paid" stamp. The cheque is now a *cancelled cheque*. Cancelled cheques are placed in the account holder's file. The account holder can request a copy of a cancelled cheque as proof of a payment. This is known as the cheque clearing cycle.

Cheques can be lost or go astray within the cycle, or be delayed if further verification is needed in the case of suspected fraud. A cheque may thus bounce some time after it has been deposited.

Following concerns about the amount of time it took the Cheque and Credit Clearing Company to clear cheques, the United Kingdom Office of Fair Trading set up a working group in 2006 to look at the cheque clearing cycle. Their report said that clearing times could be improved, but that the costs associated with speeding up the cheque clearing cycle could not be justified considering the use of cheques was declining. However, they concluded the biggest problem was the unlimited time a bank could take to dishonour a cheque. To address this, changes were implemented so that the maximum time after a cheque was deposited that it could be dishonoured was six days, what was known as the "certainty of fate" principle.

An advantage to the drawer of using cheques instead of debit card transactions, is that they know the drawer's bank will not release the money until several days later. Paying with a cheque and making a deposit before it clears the drawer's bank is called "kiting" or "floating" and is generally illegal in the US, but rarely enforced unless the drawer uses multiple chequing accounts with multiple institutions to increase the delay or to steal the funds.

Cheque usage has been declining for some years, both for point of sale transactions (for which credit cards and debit cards are increasingly preferred) and for third party payments (for example, bill payments), where the decline has been accelerated by the emergence of telephone banking and online banking. Being paper-based, cheques are costly for banks to process in comparison to electronic payments, so banks in many countries now discourage the use of cheques, either by charging for cheques or by making the alternatives more attractive to customers. In particular the handling of money transfer requires more effort and is time consuming. The cheque has to be handed over in person or sent through mail. The rise of automated teller machines (ATMs) means that small amounts of cash are often easily accessible, so that it is sometimes unnecessary to write a cheque for such amounts instead.

Alternative payment systems include:

1. Cash
2. Debit card payments
3. Credit card payments
4. Direct debit (initiated by payee)
5. Direct credit (initiated by payer), ACH in US, giro in Europe, Direct Entry in Australia
6. Wire transfer (local and international) such as Western Union and MoneyGram
7. Electronic bill payments using Internet banking
8. Online payment services, e.g. PayPal, Unified Payments Interface, PhonePe, Paytm and Worldpay
9. Money orders
10. In most European countries, cheques are now rarely used, even for third party payments. In these countries, it is standard practice for businesses to publish their bank details on invoices, to facilitate the receipt of payments by giro. Even before the introduction of online banking, it has been possible in some countries to make payments to third parties using ATMs, which may accurately and rapidly capture invoice amounts, due dates, and payee bank details via a bar code reader to reduce keying. In some countries, entering the bank account number results in the bank revealing the name of the payee as an added safeguard against fraud. In using a cheque, the onus is on the payee to initiate the payment, whereas with a giro transfer, the onus is on the payer to effect the payment (The writer of a paper cheque is pushing on a rope: he cannot force money out of his own account and into the destination's account. By writing the paper cheque, he is handing the far end of the rope to the payee, who will pull in his own good time. In contrast, giro is more akin to wire transfer, in that the payer pushes his money away towards the payee). The process is also

procedurally more simple, as no cheques are ever posted, can claim to have been posted, or need banking or clearance.

11. In Germany, Austria, the Netherlands, Belgium, and Scandinavia, cheques have almost completely vanished in favour of direct bank transfers and electronic payments. Direct bank transfers, using so-called giro transfers, have been standard procedure since the 1950s to send and receive regular payments like rent and wages and even mail-order invoices. In the Netherlands, Austria, and Germany, all kinds of invoices are commonly accompanied by so-called *acceptgiros* (Netherlands) or *Überweisungen* (German), which are essentially standardized bank transfer order forms preprinted with the payee's account details and the amount payable. The payer fills in his account details and hands the form to a clerk at his bank, which will then transfer the money. It is also very common to allow the payee to automatically withdraw the requested amount from the payer's account (*Lastschriftinzug* (German) or *Incasso (machtiging)* (Netherlands)). Though similar to paying by cheque, the payee only needs the payer's bank and account number. Since the early 1990s, this method of payment has also been available to merchants. Due to this, credit cards are rather uncommon in Germany, Austria and the Netherlands, and are mostly used to give access to credit rather than as a payment mechanism. However, debit cards are widespread in these countries, since virtually all Austrian, German and Dutch banks issue debit cards instead of simple ATM cards for use on current accounts. Acceptance of cheques has been further diminished since the late 1990s, because of the abolition of the Eurocheque. Cashing a foreign bank cheque is possible, but usually very expensive.
12. In Finland, banks stopped issuing personal cheques in about 1993 in favour of giro systems, which are now almost exclusively electronically initiated either via internet banking or payment machines located at banks and shopping malls. All Nordic countries have used an interconnected international giro system since the 1950s, and in Sweden, cheques are now almost totally abandoned; in Denmark, all banks stopped accepting cheques starting on January 1, 2017. Debit cards are now preferred for direct shop payments when not using cash. For large shop payments, such as car purchases, a type of cheque, a money order (Swedish: *postväxel*) is still used.
13. In Poland cheques were withdrawn from use in 2006, mainly because of lack of popularity due to the widespread adoption of credit and debit cards. Electronic payments across the European Union are now fast and inexpensive—usually free for consumers.
14. In the United Kingdom, Ireland, and France, cheques are still popular, partly because cheques remain free of charge to personal customers; however, bank-to-bank transfers are increasing in popularity. Since 2001, businesses in the



United Kingdom have made more electronic payments than cheque payments. Automated payments rose from 753 million in 1995 to 1.1 billion in 2001 and cheques declined in that same period of time from 1.14 to 1.1 billion payments. Most utilities in the United Kingdom charge lower prices to customers who pay by direct debit than for other payment methods, including electronic methods. The vast majority of retailers in the United Kingdom and many in France have not accepted cheques as a means of payment for several years, and cheque guarantee cards are no longer issued. For example, Shell announced in September 2005 that it would no longer accept cheques at its UK petrol stations. This was soon followed by other major fuel retailers, such as Texaco, BP, and Total. Asda announced in April 2006 that it would stop accepting cheques, initially as a trial in the London area, and Boots announced in September 2006 that it would stop accepting cheques, initially as a trial in Sussex and Surrey. Currys (and other stores in the DSGi group) and WH Smith also no longer accept cheques. Cheques are now widely predicted to become a thing of the past, or at most, a niche product used to pay private individuals or for the very large number of small service providers who are not willing to provide their bank details to customers to allow electronic payments to be made to them or do not wish to be burdened with checking their bank accounts frequently and reconciling them with amounts due (for example, music teachers, driving instructors, children's sports lessons, small shops, schools). The UK Payments Council announced in December 2009 that cheques would be phased out by October 2018, but only if adequate alternatives were developed. They intended to perform annual checks on the progress of other payments systems and a final review of the decision would have been held in 2016. Concerns were expressed, however, by charities and older people, who are still heavy users of cheques, and replacement plans were criticized as open to fraud. It was therefore announced by the UK Payments Council in July 2011 that the cheque would not be eliminated. 432 million inter-bank cheques and credit-items worth £472 billion were processed in the United Kingdom in 2016 according to Payments UK.

15. In June 2014, following a successful trial in the UK by Barclays, the British government gave the go-ahead for a cheque photo plan allowing people to pay in a cheque by taking a photo of it, rather than physically depositing the paper cheque at a bank.
16. The US still relies heavily on cheques, due to the convenience it affords payers, and due to the absence of a high volume system for low value electronic payments.
17. In the US, an estimated 18.3 billion cheques were paid in 2012, with a value of \$25.9 trillion.

18. About 70 billion cheques were written annually in the US by 2001, though around 17 million adult Americans do not have bank accounts at all. Certain companies whom a person pays with a cheque will turn it into an Automated Clearing House (ACH) or electronic transaction. Banks try to save time processing cheques by sending them electronically between banks. Cheque clearing is usually done through an electronic cheque broker, such as The Clearing House, Viewpointe LLC or the Federal Reserve Banks. Copies of the cheques are stored at a bank or the broker, for periods up to 99 years, and this is why some cheque archives have grown to 20 petabytes. The access to these archives is now worldwide, as most bank programming is now done offshore. Many utilities and most credit cards will also allow customers to pay by providing bank information and having the payee draw payment from the customer's account (direct debit). Many people in the US still use paper money orders to pay bills or transfer money which is a unique type of cheque. They have security advantages over mailing cash, and do not require access to a bank account.
19. Canada's usage of cheques is less than that of the US and is declining rapidly at the urging of the Canadian Banking Association. The Government of Canada claims it is 6.5 times more expensive to mail a cheque than to make a direct deposit. The Canadian Payments Association reported that in 2012, cheque use in Canada accounted for only 40% of total financial transactions. The Interac system, which allows instant fund transfers via chip or magnetic strip and PIN, is widely used by merchants to the point that few brick and mortar merchants accept cheques. Many merchants accept Interac debit payments but not credit card payments, even though most Interac terminals can support credit card payments. Financial institutions also facilitate transfers between accounts within different institutions with the Email Money Transfer (EMT) service.
20. Cheques are still used for government payments, payroll, rent, and utility bill payments, though direct deposits and online/telephone bill payments are more widely and increasingly used.
21. The Canadian government began phasing out all government cheques from April 2016.
22. In many Asian countries cheques were never widely used and generally only used by the wealthy, with cash being used for the majority of payments. Where cheques were used they have been declining rapidly, by 2009 there was negligible consumer cheque usage in Japan, South Korea and Taiwan. This declining trend was accelerated by these developed markets advanced financial services infrastructure. Many of the developing countries in Asia have seen an increasing use of electronic payment systems, 'leap-frogging' the less efficient chequeing system altogether.

23. India is one of the few countries in Asia that did have significant cheque usage. It had a long tradition of using cheques and passed laws to formalize cheque usage as early as 1881. As of 2009 there was still wide usage of cheques as payment method in trade, and also by individuals when paying other individuals or for paying utility bills. One of the reasons was that banks usually provided cheques for free to their individual account holders. However, cheques are now rarely accepted at point of sale in retail stores where cash and cards are payment methods of choice. Electronic payment transfer continued to gain popularity in India and like other countries this has caused a subsequent reduction in volumes of cheques issued each year. In 2009 the Reserve Bank of India reported there had been five percent decline in cheque usage compared to the previous year.
24. In Australia, following global trends, the use of cheques continues to decline. In 1994 the value of daily cheque transactions was A\$25 billion; by 2004 this had dropped to only A\$5 billion, almost all of this for B2B transactions. Personal cheque use is practically non-existent thanks to the longstanding use of the EFTPOS system, BPAY, Electronic transfers and debit cards.
25. In New Zealand, payments by cheque have declined since the mid-1990s in favour of electronic payment methods. In 1993, cheques accounted for over half of transactions through the national banking system, with an annual average of 130 cheques per capita. By 2006 cheques lagged well behind EFTPOS (debit card) transaction and electronic credits, making up only nine percent of transactions, with an annual average of 41 cheque transaction per capita. Most retail stores no longer accept cheques, and those that do often require government-issued identification or a store-issued "cheque identification card" before they can be accepted as payment.

Cashier's cheques and banker's drafts, also known as bank cheques, banker's cheques or treasurer's cheques, are cheques issued against the funds of a financial institution rather than an individual account holder. Typically, the term *cashier's check* is used in the US and *banker's draft* is used in the UK and most of the Commonwealth. The mechanism differs slightly from country to country but in general the bank issuing the cheque or draft will allocate the funds at the point the cheque is drawn. This provides a guarantee, save for a failure of the bank, that it will be honoured. Cashier's cheques are perceived to be as good as cash but they are still a cheque, a misconception sometimes exploited by scam artists. A lost or stolen cheque can still be stopped like any other cheque, so payment is not completely guaranteed.

When a certified cheque is drawn, the bank operating the account verifies there are currently sufficient funds in the drawer's account to honour the cheque. Those funds

are then set aside in the bank's internal account until the cheque is cashed or returned by the payee. Thus, a certified cheque cannot "bounce", and its liquidity is similar to cash, absent failure of the bank. The bank indicates this fact by making a notation on the face of the cheque .

A cheque used to pay wages may be referred to as a payroll cheque. Even when the use of cheques for paying wages and salaries became rare, the vocabulary "pay cheque" still remained commonly used to describe the payment of wages and salaries. Payroll cheques issued by the military to soldiers, or by some other government entities to their employees, beneficiaries, and creditors, are referred to as warrants.

Warrants look like cheques and clear through the banking system like cheques, but are not drawn against cleared funds in a deposit account. A cheque differs from a warrant in that the warrant is not necessarily payable on demand and may not be negotiable. They are often issued by government entities such as the military to pay wages or suppliers. In this case they are an instruction to the entity's treasurer department to pay the warrant holder on demand or after a specified maturity date.

A traveller's cheque is designed to allow the person signing it to make an unconditional payment to someone else as a result of paying the issuer for that privilege. Traveller's cheques can usually be replaced if lost or stolen, and people often used to use them on vacation instead of cash as many businesses used to accept traveller's cheques as currency. The use of credit or debit cards has begun to replace the traveller's cheque as the standard for vacation money due to their convenience and additional security for the retailer. This has resulted in many businesses no longer accepting traveller's cheques.

A cheque sold by a post office, bank or merchant such as a grocery store for payment by a third party for a customer is referred to as a money order or postal order. These are paid for in advance when the order is drawn and are guaranteed by the institution that issues them and can only be paid to the named third party. This was a common way to send low value payments to third parties, avoiding the risks associated with sending cash via the mail, prior to the advent of electronic payment methods.

Oversized cheques are often used in public events such as donating money to charity or giving out prizes such as Publishers Clearing House. The cheques are commonly 18 by 36 inches (46 cm × 91 cm) in size; however, according to the Guinness Book of World Records, the largest ever is 12 by 25 metres (39 ft × 82 ft). Until recently,

regardless of the size, such cheques could still be redeemed for their cash value as long as they would have the same parts as a normal cheque, although usually the oversized cheque is kept as a souvenir and a normal cheque is provided. Any bank could levy additional charges for clearing an oversized cheque. Most banks need to have the machine-readable information on the bottom of cheques read electronically, so only very limited dimensions can be allowed due to standardized equipment.

In the US some public assistance programmes such as the Special Supplemental Nutrition Program for Women, Infants and Children, or Aid to Families with Dependent Children make *vouchers* available to their beneficiaries, which are good up to a certain monetary amount for purchase of grocery items deemed eligible under the particular programme. The voucher can be deposited like any other cheque by a participating supermarket or other approved business.

The Cheques Act 1986 is the body of law governing the issuance of cheques and payment orders in Australia. Procedural and practical issues governing the clearance of cheques and payment orders are handled by Australian Payments Clearing Association (APCA).

In 1999, banks adopted a system to allow faster clearance of cheques by electronically transmitting information about cheques, this brought clearance times down from five to three days. Prior to that cheques had to be physically transported to the paying bank before processing began. If it was dishonoured, it was physically returned.

All licensed banks in Australia may issue cheques in their own name. Non-banks are not permitted to issue cheques in their own name but may issue, and have drawn on them, payment orders .

In Canada, cheque sizes and types, endorsement requirement and MICR tolerances are overseen by Payments Canada.

- Canadian cheques can legally be written in English, French or Inuktitut.
- A tele-cheque is a paper payment item that resembles a cheque except that it is neither created nor signed by the payer—instead it is created (and may be signed) by a third party on behalf of the payer. Under CPA Rules these are prohibited in the clearing system effective 1 January 2004.
- In the UK all cheques must now conform to "Cheque and Credit Clearing Company (C&CCC) Standard 3", the industry standard detailing layout and font, be printed on a specific weight of paper (CBS1), and contain explicitly defined security features.

- Since 1995, all cheque printers must be members of the Cheque Printer Accreditation Scheme (CPAS). The scheme is managed by the Cheque and Credit Clearing Company and requires that all cheques for use in the British clearing process are produced by accredited printers who have adopted stringent security standards.
- The rules concerning crossed cheques are set out in Section 1 of the Cheques Act 1992 and prevent cheques being cashed by or paid into the accounts of third parties. On a crossed cheque the words “account payee only” (or similar) are printed between two parallel vertical lines in the centre of the cheque. This makes the cheque non-transferable and is to avoid cheques being endorsed and paid into an account other than that of the named payee. Crossing cheques basically ensures that the money is paid into an account of the intended beneficiary of the cheque.
- Following concerns about the amount of time it took banks to clear cheques, the United Kingdom Office of Fair Trading set up a working group in 2006 to look at the cheque clearing cycle. They produced a report recommending maximum times for the cheque clearing which were introduced in UK from November 2007. In the report the date the credit appeared on the recipient's account (usually the day of deposit) was designated "T". At "T + 2" (two business days afterwards) the value would count for calculation of credit interest or overdraft interest on the recipient's account. At "T + 4" clients would be able to withdraw funds on current accounts or at "T + 6" on savings accounts (though this will often happen earlier, at the bank's discretion). "T + 6" is the last day that a cheque can bounce without the recipient's permission—this is known as "certainty of fate". Before the introduction of this standard (also known as 2-4-6 for current accounts and 2-6-6 for savings accounts), the only way to know the "fate" of a cheque has been "Special Presentation", which would normally involve a fee, where the drawee bank contacts the payee bank to see if the payee has that money at that time. "Special Presentation" needed to be stated at the time of depositing in the cheque.
- Cheque volumes peaked in 1990 when four billion cheque payments were made. Of these, 2.5 billion were cleared through the inter-bank clearing managed by the C&CCC, the remaining 1.5 billion being in-house cheques which were either paid into the branch on which they were drawn or processed intra-bank without going through the clearings. As volumes started to fall, the challenges faced by the clearing banks were then of a different nature: how to benefit from technology improvements in a declining business environment.
- Although the UK did not adopt the euro as its national currency when other European countries did in 1999, many banks began offering euro denominated accounts with chequebooks, principally to business customers. The cheques can be used to pay for certain goods and services in the UK. The same year, the

C&CCC set up the euro cheque clearing system to process euro denominated cheques separately from sterling cheques in Great Britain.

- The UK Payments Council from 30 June 2011 withdrew the existing *Cheque Guarantee Card Scheme* in the UK. This service allowed cheques to be guaranteed at point of sales up to a certain value, normally £50 or £100, when signed in front of the retailer with the additional cheque guarantee card. This was after a long period of decline in their use in favour of debit cards.
- The Payments Council proposed to close the centralized cheque clearing altogether in the UK and had set a target date for this of 31 October 2018. However, on 12 July 2011, the Payments Council announced that after opposition from MPs, charity groups and public opinion, the cheque will remain in use and there would no longer be a reason to seek an alternative paper-initiated payment.

In Turkey, cheques are usually used for commercial transactions only, and using post-dated cheques is legally possible.

Cheques have been a tempting target for criminals to steal money or goods from the drawer, payee or the banks. A number of measures have been introduced to combat fraud over the years. These range from things like writing a cheque so it is difficult to alter after it is drawn, to mechanisms like crossing a cheque so that it can only be paid into another bank's account providing some traceability. However, the inherent security weaknesses of cheques as a payment method, such as having only the signature as the main authentication method and not knowing if funds will be received until the clearing cycle to complete, have made them vulnerable to a number of different types of fraud.

Taking advantage of the float period (cheque kiting) to delay the notice of non-existent funds. This often involves trying to convince a merchant or other recipient, hoping the recipient will not suspect that the cheque will not clear, giving time for the fraudster to disappear.

Sometimes, forgery is the method of choice in defrauding a bank. One form of forgery involves the use of a victim's legitimate cheques, that have either been stolen and then cashed, or altering a cheque that has been legitimately written to the perpetrator, by adding words or digits to inflate the amount.

Since cheques include significant personal information (name, account number, signature and in some countries driver's license number, the address or phone number

of the account holder), they can be used for fraud, specifically identity theft. The practice was discontinued as identity theft became widespread.

### Dishonoured cheques

A dishonoured cheque cannot be redeemed for its value and is worthless; they are also known as an *RDI* (returned deposit item), or *NSF* (non-sufficient funds) cheque. Cheques are usually dishonoured because the drawer's account has been frozen or limited, or because there are insufficient funds in the drawer's account when the cheque was redeemed. A cheque drawn on an account with insufficient funds is said to have *bounced* and may be called a *rubber cheque*. Banks will typically charge customers for issuing a dishonoured cheque, and in some jurisdictions such an act is a criminal action. A drawer may also issue a *stop* on a cheque, instructing the financial institution not to honour a particular cheque.

In England and Wales, they are typically returned marked "Refer to Drawer"—an instruction to contact the person issuing the cheque for an explanation as to why the cheque was not honoured. This wording was brought in after a bank was successfully sued for libel after returning a cheque with the phrase "Insufficient Funds" after making an error—the court ruled that as there were sufficient funds the statement was demonstrably false and damaging to the reputation of the person issuing the cheque. Despite the use of this revised phrase, successful libel lawsuits brought against banks by individuals remained for similar errors.

In Scotland, a cheque acts as an assignment of the amount of money to the payee. As such, if a cheque is dishonoured in Scotland, what funds are present in the bank account are "attached" and frozen, until either sufficient funds are credited to the account to pay the cheque, the drawer recovers the cheque and hands it into the bank, or the drawer obtains a letter from the payee stating that they have no further interest in the cheque.

A cheque may also be dishonoured because it is stale or not cashed within a "void after date". Many cheques have an explicit notice printed on the cheque that it is void after some period of days. In the US, banks are not required by the Uniform Commercial Code to honour a stale-dated cheque, which is a cheque presented six months after it is dated.

In the United States some consumer reporting agencies such as ChexSystems, Early Warning Services, and TeleCheck have been providing cheque verification services that track how people manage their checking accounts. Banks use the agencies to screen checking account applicants. Those with low debit scores are denied checking accounts because a bank can not afford an account to be overdrawn.



In the United Kingdom, in common with other items such as Direct Debits or standing orders, dishonoured cheques can be reported on a customer's credit file, although not individually and this does not happen universally amongst all banks. Dishonoured payments from current accounts can be marked in the same manner as missed payments on the customer's credit report.

Typically when customers pay bills with cheques (like gas or water bills), the mail will go to a "lock box" at the post office. There a bank will pick up all the mail, sort it, open it, take the cheques and remittance advice out, process it all through electronic machinery, and post the funds to the proper accounts. In modern systems, taking advantage of the Check 21 Act, as in the US, many cheques are transformed into electronic objects and the paper is destroyed.

## Final good

In economics, any commodity which is produced and subsequently consumed by the consumer, to satisfy his current wants or needs, is a consumer good or final good. Consumer goods are goods that are ultimately consumed rather than used in the production of another good. For example, a microwave oven or a bicycle which is sold to a consumer is a final good or consumer good, whereas the components which are sold to be used in those goods are called intermediate goods. For example, textiles or transistors which can be used to make some further goods.

When used in measures of national income and output, the term "final goods" only includes new goods. For instance, the GDP excludes items counted in an earlier year to prevent double counting of production based on resales of the same item second and third hand. In this context the economic definition of goods includes what are commonly known as *services*.

*Manufactured goods* are goods that have been processed in any way. As such, they are the opposite of raw materials, but include intermediate goods as well as final goods.

There are legal definitions. For example, The United States Consumer Product Safety Act has an extensive definition of consumer product, which begins:

CONSUMER PRODUCT.--The term "consumer product" means any article, or component part thereof, produced or distributed (i) for sale to a consumer for use in or around a permanent or temporary household or residence, a school, in recreation, or otherwise, or (ii) for the personal use, consumption or enjoyment of a consumer in or around a permanent or temporary household or residence, a school, in recreation, or otherwise; but such term does not include— (A) any article which is not customarily produced or distributed for sale to, or use or consumption by, or enjoyment of, a consumer,

It then goes on to list eight additional specific exclusions and further details.

Final goods can be classified into the following categories:

1. Durable goods
2. Nondurable goods
3. Services

Consumer durable goods usually have a significant life span which tends to be a minimum of 1 or 2 year based on guarantee or warranty period and maximum life depends upon the durability of the product or good. Whereas for capital goods which are tangible in nature, such as machinery or building or any other equipment which can be used in manufacturing of final product, these are durable goods with limited life span determined by its manufacturer before selling. The longevity and the often higher cost of durable goods usually cause consumers to postpone expenditures on them, which makes durables the most volatile (or cost-dependent) component of consumption.

Consumer nondurable goods are purchased either for the immediate use or to keep it for very short span of time. Generally the life span of nondurable goods may vary from a few minutes to up to three years. Few examples of such goods are food, beverages, clothing, shoes, and gasoline.

Consumer services are the intangible in nature: they cannot be seen, felt or tasted by the consumer but still they give satisfaction to the consumer. They are also inseparable and variable in nature which means they are produced and consumed simultaneously. Examples of consumer services include haircuts, auto repairs, landscaping, etc.

Final goods can be classified into the following categories, which are determined by the consumer's buying habits:

1. Convenience goods
2. Shopping goods
3. Specialty goods
4. Unsought goods

Convenience goods are goods which are regularly consumed and easily available. Generally convenience goods come in the category of nondurable goods such as fast foods, cigarettes and tobacco with low value. Convenience goods are mostly sold by wholesalers or retailers, so as to make them available to the consumers in good or large volume. Convenience goods can further be categorized into:

- Staple convenience consumer goods
- Impulse convenience consumer Goods

Staple convenience consumer goods are those kinds of goods which come under the basic necessities of the consumer. These goods are easily available and in large quantity. Examples include milk, bread, sugar, etc.

Impulse convenience consumer goods are the goods which do not belong to the priority list of the consumer. These goods are purchased without any prior planning, just on the basis of the impulse. Examples include potato wafers, candies, ice creams, cold drinks, etc.

Shopping consumer goods are the goods which take lot of time and proper planning before making purchase decision; in this case consumer does a lot of selection and comparison based on various parameters such as cost, brand, style, comfort etc., before buying an item. Shopping goods are costlier than convenience goods and are durable in nature. Consumer goods companies usually try to set up their shops and show rooms in active shopping area to attract customer attention and their main focus is to do lots of advertising and promotion so that to attract more customer.

Example include clothing items, televisions, radio, footwear, home furnishing, etc. They sell Ray Bans

Specialty goods are unique in nature; these are unusual and luxurious items available in the market. Specialty goods are mostly purchased by the upper class of the society as they are expensive in nature and difficult to be afforded by middle or lower-class people. Companies advertise their goods targeting the upper class. These goods do not fall under the category of necessity; rather they are purchased on the basis personal preference or desire. Brand name, uniqueness, and special features of an item are major attributes which attract customers and make them buy such products.

Examples include antiques, jewelry, wedding dresses, cars, etc.

Unsought goods neither belong to the necessity group of consumer goods list nor to specialty goods. They are always available in the market but are purchased by very few consumers, either based on their interest or their need for some specific reasons. The general public does not purchase such goods often.

Examples include snowshoes, fire extinguishers, flood insurance, etc.

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